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MOTOR VEHICLE SAFETY STANDARD NO. 217**Bus Window Retention and Release**

(Docket No. 2-10; Notice 3)

The purpose of this amendment to § 571.21 of Title 49, Code of Federal Regulations, is to add a new motor vehicle safety standard that establishes minimum requirements for bus window retention and release to reduce the likelihood of passenger ejection in accidents and enhance passenger exit in emergencies.

A notice of proposed rulemaking on this subject was published on August 15, 1970 (35 F.R. 13025). The comments received in response to the notice have been considered in this issuance of a final rule.

For reasons of clarification, the requirements paragraph has been reorganized and the demonstration procedures paragraph has been replaced by a test conditions paragraph. Some of the specifications of the demonstration procedures paragraph are incorporated under the requirements paragraph, and the remainder are retained under the test conditions paragraph. With the exception of the changes discussed below, the reorganization does not affect the substance of the standard.

In altering the window retention requirements, the final rule lowers the force application limit, provides more precise glazing breakage and glazing yield limits, and exempts small windows. With respect to the emergency exit requirements, the standard permits devices other than push-out windows to be used for emergency exits, permits buses with a GVWR of 10,000 pounds or less to utilize devices other than emergency exits for emergency egress, and permits an alternate roof exit when the bus configuration precludes provision of a rear emergency exit. It also raises the force limits for release and extension of emergency exits, deletes the inertial load requirement for the release mechanism, and requires that emergency exit location markings be lo-

cated within each occupant space adjacent to an exit.

A few changes have been made in the diagram accompanying the standard. Figure 1, "Adjacent Designated Seating Position, Occupant Spaces, and Push-Out Window Relationship," has been deleted from the final rule because the relationship is sufficiently described in the text of the standard. Accordingly, Figures 2 and 3 have been renumbered as Figures 1 and 2, respectively. A new Figure 3, indicating access regions for emergency exits which do not have adjacent seats, has been added. For reasons of clarification, Figures 2a and 2b and Figures 3a and 3b in the proposed rule have been placed beside each other to form Figures 1 and 2 respectively.

The torque in Figures 2a and 2b of the proposed rule has been transferred to the text and has been explained to indicate that the force used to obtain the torque shall not be more than 20 pounds. In addition, the clearance specifications in Figures 1 and 2 have been clarified in the text to require that the lower edge of the force envelope shall be located 5 inches above the seat, or 2 inches above the armrest, if any, whichever is higher. In several instances, minor changes have been made in the labeling without altering the substance of the diagrams.

A number of comments sought changes in the window retention requirements. Two comments requested an exemption for intra-city buses because the probability of rollover accidents would be minimal in slow-speed operation. Urban transit buses are subjected to risks of rollover accidents within the city when they travel at moderate to high speed on intra-urban expressways, and should therefore be covered by the

standard. Accordingly, the request for this exemption is denied.

Several comments requested an exemption for small windows. Since there is little likelihood of passenger ejection or protrusion from window openings whose minimum surface dimension measured through the center of the area is less than eight inches, an exemption for windows of this size has been granted.

Two comments asked that the 2,000 pound force application limit in the window retention requirement be lowered. The data indicates that a 1,200-pound limit would be more compatible with the glazing strength. Accordingly, the 2,000-pound force application limit has been lowered to 1,200 pounds.

Several manufacturers stated that they encountered difficulties in ascertaining when the proposed head form penetration limit of the window retention requirement had been reached. After observation of window retention testing, the NHTSA has concluded that the penetration limit as specified in the notice of proposed rule-making is difficult to determine. For this reason the head form penetration limit has been rephrased in terms of the development of cracks in the glazing and the amount of depression of the glazing surface in relation to its original position.

A number of comments objected to the requirement that at least 75% of the glazing be retained in the window mounting during window retention testing. The NHTSA has determined that the intent of this requirement is already accomplished by the requirement that each window be retained during testing by its surrounding structure in a manner which would prevent passage of a 4-inch sphere, and the requirement is accordingly deleted from the final rule.

With respect to the emergency exit requirements, the standard permits devices other than push-out windows to be used for emergency exits. Upon review of the requirements, it has been determined that devices such as panels and doors which meet the emergency exit requirements would be as effective as push-out windows for emergency egress. Because the Administration has concluded that passenger egress is enhanced when several emergency exits are pro-

vided, the standard requires that in computing whether a bus meets the unobstructed openings area requirements, no emergency exit, regardless of its area, shall be credited with more than 520 square inches of the total area requirement.

A number of motor vehicle manufacturers sought exemption from the emergency exit requirements for smaller vehicles weighing 10,000 pounds or less GVWR, such as limousines and station wagons, which are designed to carry more than 10 persons and are therefore considered to be buses under NHTSA regulations (49 CFR 571.3). Such vehicles are usually provided with numerous doors and windows which provide sufficient unobstructed openings for emergency exit. Therefore the Administration has concluded that the configuration of these vehicles satisfies the intent of the standard with respect to provision of emergency exits, and they are exempted from the emergency exit openings requirements.

The emergency exit requirements have been changed to permit installation of an alternate roof exit when the bus configuration precludes provision of a rear exit, provided that the roof exit meets the release, extension, and identification requirements. The NHTSA has established this alternative in order to allow design flexibility while providing for emergency egress in rollover situations.

A number of comments expressed concern that the proposed maximum force level for release and extension of emergency exits in Figures 2a and b and 3a and b were too low to inhibit inadvertent operation by passengers and suggested that the required maximum force level be raised. After consideration of the goals of facilitating emergency egress and preserving the integrity of the passenger compartment under normal operation, it has been determined that the maximum force levels should be raised from 10 and 30 pounds to 20 and 60 pounds respectively.

One comment submitted the results of testing which indicated that the 30g inertial load requirement for the release mechanism was unnecessarily high. The testing also revealed that the engineering concepts upon which the inertial load requirement is based are not generally applied in the industry and that the requirement

would be impracticable. Moreover, an increase in maximum force levels for emergency exit operation in the rule should improve latch integrity. For these reasons, the requirement has been deleted.

The standard requires emergency exit location markings to be placed in certain occupant spaces because of a possible contradiction under the proposed standard between the requirement that the identification markings be located within 6 inches of the point of operation and the requirement that the markings be visible to a seated occupant. The NHTSA has concluded that emergency egress could be hindered if the passenger has difficulty in finding the marking, and that location of the marking outside of an occupant space containing an adjacent seat, which would be permitted under the proposed standard, could create this problem. At the same time it is desirable for the identification and instructions to be located near the point of release. Therefore the final rule requires that when a release mechanism is not located within an occupant space containing an adjacent seat, a label indicating the location of the nearest release mechanism shall be placed within that occupant space.

The temperature condition has been reworded to make it clear, in light of the explanation of

usage in § 571.4, that the vehicle must be capable of meeting the performance requirements at any temperature from 70° F. to 85° F.

Effective date: September 1, 1973. After evaluation of the comments and other information, it has been determined that the structural changes required by the standard will be such that many manufacturers will require an effective date of at least fifteen months after issuance. It is therefore found, for good cause shown, that an effective date more than one year from the date of issuance is in the public interest.

In consideration of the above, Standard No. 217, Bus Window Retention and Release, is added to § 571.21 of Title 49, Code of Federal Regulations, as set forth below.

This rule is issued under the authority of sections 103, 112, and 119 of the National Traffic and Motor Vehicle Safety Act, 15 U.S.C. 1392, 1401, 1407, and the delegation of authority at 49 CFR 1.51.

Issued on May 3, 1972.

Douglas W. Toms
Administrator

37 F.R. 9394
May 10, 1972

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217

Bus Window Retention and Release

(Docket 2-10; Notice 4)

The purpose of this notice is to respond to petitions for reconsideration of Motor Vehicle Safety Standard No. 217, Bus Window Retention and Release, in § 571.217 of Title 49, Code of Federal Regulations. The standard was issued on May 10, 1972 (37 F.R. 9394).

International Harvester stated that it manufactures an 18-passenger airport limousine, the "Stageway Coach Conversion", weighing 10,700 pounds GVWR and requested that it be exempted from the requirements of S5.2.1, "Buses with GVWR of more than 10,000 pounds." They emphasized that the 18-passenger model is equipped with 10 side doors, two more than is provided by a 15-passenger, 10,000-pound, version of a similar airport limousine vehicle which they manufacture. The NHTSA has concluded that vehicles which provide at least one door for each three passenger seating positions afford sufficient means of emergency egress regardless of their weight. S5.2.1 has accordingly been amended to provide that buses with a GVWR of more than 10,000 pounds may alternatively meet the unobstructed openings requirement of S5.2 by providing at least one door for each three passenger spaces in the vehicle. The "Stageway Coach Conversion" falls into the category of vehicles covered by this amendment and thus International Harvester's request is granted.

International Harvester, General Motors, and Chrysler all requested a clarification of the S5.1 window retention requirements because they felt it was possible to interpret the paragraph as prohibiting the use of tempered glass for window glazing. Ford also submitted a request for exemption from the window retention requirements for buses under 10,000 pounds GVWR based on its interpretation of S5.1 as precluding the use

of tempered glass. The petitioners stated that tempered glass would shatter under the application of pressure required, and were not certain whether S5.1(b), describing the development of cracks in the glazing, would cover this occurrence. The NHTSA did not intend to prohibit the use of tempered glass, and in order to correct this possible ambiguity, S5.1(b) has been amended to include shattering of the window glazing.

General Motors also requested an interpretation of the method of measuring whether 80 percent of the glazing thickness has developed cracks as described in S5.1(b). The paragraph refers to a measurement through the thickness of glass and not a measurement of the glazing surface area, as GM suggests it could mean. GM also doubted that the percentage of glazing thickness which develops cracks could be measured. The NHTSA has determined that the intent of the language is clear and that performance of this measurement is within the state of the art, so that no change in the language is necessary. The request is therefore denied.

General Motors requested a clarification of the term "minimum surface dimension" in paragraph S5.1(c). The NHTSA agrees that a clarification is necessary to prevent interpretations which may not meet the intent of this standard, and the paragraph has been accordingly amended to specify that the dimension is to be measured through the center of the area of the sheet of glazing.

General Motors stated that it interpreted the head form travel rate specified in S5.1.1 of two inches per minute as a "nominal value" requirement, since no tolerances are given in the standard. The test conditions in a safety standard

represent the performance levels that the product must be *capable* of meeting. They are not instructions either to the manufacturers' or the government's test laboratories, or a requirement that the product should be tested at "exactly" those levels. The manufacturers' tests in this case should be designed to demonstrate that the vehicle would meet the stated requirements *if* tested at two inches per minute. If that is what General Motors means by a "nominal value", its interpretation is correct.

In consideration of the foregoing, Motor Vehicle Safety Standard No. 217, Bus Window

Retention and Release, 49 CFR 571.217, is amended....

Effective date: September 1, 1973.

This notice is issued under the authority of sections 103, 112, and 119 of the National Traffic and Motor Vehicle Safety Act, 15 U.S.C. 1392, 1401, 1407, and the delegation of authority at 49 CFR 1.51.

Issued on August 30, 1972.

Douglas W. Toms
Administrator

37 F.R. 18034
September 6, 1972

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217**Bus Window Retention and Release**

(Docket No. 2-10; Notice 5)

The purpose of this notice is to amend Motor Vehicle Safety Standard No. 217, Bus Window Retention and Release, 49 CFR § 571.217, in response to petitions received. Several minor amendments for purposes of clarification have also been made. The standard was published initially on May 10, 1972, (37 F.R. 9394), and amended September 6, 1972 (37 F.R. 18034).

Wayne Corporation has petitioned that the torque limit of 20 inch-pounds for the actuation of rotary emergency exit releases in S5.3.2(a) (3) of the standard is impractical. The Blue Bird Body Company also objected to the requirement, requesting that the limit be raised to 225 inch-pounds in order to avoid inadvertent openings. The NHTSA has decided, based on these petitions, that a maximum torque requirement is redundant, since the force magnitude generally is limited in S5.3.2 to not more than twenty pounds. Accordingly the torque requirement is deleted from the rule.

Blue Bird also requested that Figure 3A, which depicts access region for roof and side emergency exits without adjacent seats in both an upright and overturned bus, be made more explicit.

In response to this request, Figure 3A is being replaced by two figures, one of which depicts

a side emergency exit (Figure 3A), and the other a roof emergency exit (Figure 3B). Existing Figure 3B, depicting access regions for a rear exit with a rear shelf or other obstruction behind the rearmost seat, becomes Figure 3C. A new Figure 3D is added to depict rear seat access regions in buses not having a rear shelf or other obstruction behind the rearmost seat, a configuration common to school buses. Paragraph S5.2.1, regarding provision of emergency exits, is amended to make it clear that a required rear exit must meet the requirements of S5.3 through S5.5 when the bus is overturned on either side, with the occupant standing facing the exit, as well as when the bus is upright.

In consideration of the above, Standard No. 217, Bus Window Retention and Release, 49 CFR 571.217, is amended

Effective date: September 1, 1973.

(Sec. 103, 112, 119, P.L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1407) and the delegation of authority at 49 CFR 1.51.

Issued on February 28, 1973.

Douglas W. Toms
Administrator

38 F.R. 6070
March 6, 1973

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PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217**Bus Window Retention and Release**

(Docket No. 2-10; Notice 7)

This notice amends Federal Motor Vehicle Safety Standard No. 217, "Bus Window Retention and Release" (49 CFR § 571.217), to exempt from the standard buses manufactured for the purpose of transporting persons under physical restraint. The amendment is based on a notice of proposed rulemaking published October 1, 1973 (38 F.R. 27227), following petitions received from the Bureau of Prisons, United States Department of Justice.

The comments received in response to the proposal agreed that buses manufactured for the specified purpose should not be provided with the emergency exits required by Standard No. 217. The standard specifies that buses contain emergency exits operable by bus occupants, requirements which the NHTSA considers obviously incompatible with the need to transport prison inmates. The National Transportation Safety Board (NTSB) commented, however, that compensatory measures should be taken to minimize the likelihood of fire in prison buses, since the probability of safely evacuating a prison bus is less than that of any other type of bus. The NTSB urged that the exemption be limited to diesel-fueled buses, since diesel fuel is less likely to ignite than gasoline.

The NHTSA recognizes the desirability of minimizing the likelihood of fire in buses. How-

ever, at the present time it is not practical to expect that all newly manufactured prison buses be equipped with diesel engines, given the apparent immediate need for the exemption. Appropriate rulemaking action can be taken in the future if it appears necessary to mitigate from a safety standpoint the loss of emergency exits in prison buses.

In light of the above, paragraph S3 of section 571.217, Title 49, Code of Federal Regulations (Motor Vehicle Safety Standard No. 217), is amended. . . .

Effective date: June 3, 1974. This amendment imposes no additional burdens on any person and relieves restrictions found to be unwarranted. Accordingly, good cause exists and is hereby found for an effective date less than 180 days from the day of issuance.

(Secs. 103, 112, and 119, Pub. L. 89-563; 80 Stat. 718; 15 U.S.C. 1392, 1491, 1407; delegations of authority at 49 CFR 1.51.)

Issued on April 26, 1974.

James B. Gregory
Administrator

39 F.R. 15274
May 2, 1974

PROPOSED TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217

217 Vehicle Seating and Restraints

(Section 217.2-101, 217.2-102, 217.2-103)

even at the present time it is not possible to expect that all newly manufactured motor vehicles equipped with child seats will be tested in accordance with the requirements of the standard. It is therefore necessary to require that all child seats installed in motor vehicles be tested in accordance with the requirements of the standard.

In light of the above, paragraph 217.2-101 is proposed to be amended to read as follows:

217.2-101. Child seats installed in motor vehicles shall be tested in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard.

217.2-102. Child seats installed in motor vehicles shall be tested in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard.

217.2-103. Child seats installed in motor vehicles shall be tested in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard.

The motor vehicle Federal Motor Vehicle Safety Standard No. 217, 49 CFR 217.2-101, is hereby amended to read as follows: 217.2-101. Child seats installed in motor vehicles shall be tested in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard.

The motor vehicle Federal Motor Vehicle Safety Standard No. 217, 49 CFR 217.2-102, is hereby amended to read as follows: 217.2-102. Child seats installed in motor vehicles shall be tested in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard.

The motor vehicle Federal Motor Vehicle Safety Standard No. 217, 49 CFR 217.2-103, is hereby amended to read as follows: 217.2-103. Child seats installed in motor vehicles shall be tested in accordance with the requirements of the standard. The test shall be conducted in accordance with the requirements of the standard.

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217

Bus Window Retention and Release

(Docket No. 75-6; Notice 2)

This notice amends Federal Motor Vehicle Safety Standard No. 217, *Bus Window Retention and Release*, 49 CFR 571.217, to clarify the marking requirements for emergency exits on buses. The amendment requires certain markings on all bus emergency exits except manually-operated windows of sufficient size and doors in buses with a GVWR of 10,000 pounds or less.

The amendment was proposed in a notice published April 18, 1975 (40 FR 17266). Comments were received from Chrysler Corporation and General Motors. Chrysler concurred with the proposal. GM, while also concurring, suggested that the wording of the amendment be modified somewhat. The amendment has been reworded to reflect more clearly the intent of this amendment, distinguishing between emergency exits that require markings and those that do not. The NHTSA has determined that special emergency exit markings are unnecessary for doors and manually-operated windows in buses with a GVWR of 10,000 pounds or less. This amendment does not exempt buses with a GVWR of 10,000 pounds or less from complying with the unobstructed openings requirements of S5.2.

It only provides that the openings do not have to be marked as emergency exits. However, specially-installed emergency exits in such buses, such as push-out windows, are not exempted from the marking requirements.

The amendment also allows bus manufacturers the option of designating an emergency door as "Emergency Door" or "Emergency Exit." This will bring Standard No. 217 into conformity with current NHTSA interpretations of the emergency exit marking requirements. However, any emergency exit other than a door must have the designation "Emergency Exit."

Accordingly, S5.5.1 of 49 CFR 571.217, *Bus Window Retention and Release*, is amended . . .

Effective date: October 16, 1975.

(Secs. 103, 112, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1407); delegations of authority at 49 CFR 1.51).

Issued on October 8, 1975.

Gene G. Mannella
Acting Administrator
40 F.R. 48512
October 16, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217

Bus Window Retention and Release

(Docket NO. 75-3; Notice 2)

This notice amends Federal Motor Vehicle Safety Standard No. 217, *Bus Window Retention and Release*, 49 CFR 571.217, to specify requirements for emergency doors for school buses pursuant to the provisions of section 202 of the Motor Vehicle and Schoolbus Safety Amendments of 1974 (Public Law 93-492, 88 Stat. 1484, 15 U.S.C. 1392). It responds to the congressional mandate to establish standards concerning school bus emergency exits (15 U.S.C. § 1392(i) (1) (A) (i)).

Section 202 requires that certain school bus safety standards be published within 15 months of the passage of the 1974 amendments on October 27, 1974. In addition, these statutory provisions remove the otherwise discretionary authority of the NHTSA to establish lead times for compliance under the general rulemaking provisions of the National Traffic and Motor Vehicle Safety Act by specifying an effective date for the amendment of 9 months from the date of publication of this notice (15 U.S.C. § 1392(i) (1) (B)). The proposed amendments upon which this notice is based were published on February 28, 1975 (40 F.R. 8569).

Many comments were received in response to the proposal to require either one rear emergency door or two side emergency doors in the rear half of the bus passenger compartment. Many objected that the proposal provided for too few emergency doors, and requested requirements for additional side doors and roof exits. Some commenters suggested that push-out windows and the "California" rear exit be required. The agency does not discourage the inclusion of additional emergency exits in school buses so long

as they comply with the requirements applicable to non-school bus emergency exits. The NHTSA believes that "California" rear window emergency exits may be preferable in certain circumstances and proposes in this issue of the Federal Register to amend this rule to permit the use of the "California" rear window along with a side door emergency exit in place of the rear door emergency exit. In the alternative, it is proposed to allow this option only on rear-engine-powered school buses. Under either proposal the requirements of the standard would not be met by providing two sidedoor emergency exits. In addition, the subject of roof exits is being considered and could be the subject of future rulemaking. However, roof exit requirements cannot be included in this rulemaking action because of the statutorily imposed deadline on promulgation of these amendments.

A number of comments were received opposing the proposed interlock requirement on the ground that it would prevent restarting the engine after the school bus stalls in a dangerous intersection or a railroad crossing and panicky passengers jam the release mechanism. The intent of this requirement is to prevent the initial starting of the bus engine until the doors have been unlocked, by a key, combination, or the operation of a remote switch at the beginning of the day. The deletion of the phrase "or otherwise inoperable" excludes inadvertent jamming of the door release mechanism from the requirement. The word "locked" has been defined for this purpose as not releasable at the door except by a key or combination. It would include doors openable by a remote switch.

Six comments supported the proposal to require an audible alarm when the ignition is on and the release mechanism of any emergency door is not closed. Five of these, however, objected that an alarm at each door in addition to one in the driver's compartment would be unnecessary and unduly costly. The NHTSA does not agree. The purpose of audible alarms at each door is to indicate which release mechanism is not closed. This is especially critical while the vehicle is in motion, as it will serve to warn the passengers in the area of the possibility that an emergency door could open. In addition, it will serve as a deterrent to tampering by children with the emergency door release mechanisms. Therefore, the requirement that an audible alarm be positioned at each emergency door and at the driver's position has been retained.

Objectives were received to the requirement that the magnitude of force required to activate the emergency door release mechanism be not more than 40 pounds. The NHTSA does not consider that the 40 pound force limit is too high in light of the location and access requirements of this standard. If the maximum force level were substantially lowered, there would be a significant likelihood that emergency door release mechanisms would be inadvertently activated by a passenger.

In addition, the NHTSA has noted the possibility of ambiguity with respect to the wording of paragraph S5.4 of the old standard and S5.4.2 of the proposal. The intent of these paragraphs is to specify conditions applicable to the opening of the exit *after* the release mechanism has been activated. Accordingly, the wording of the two paragraphs has been modified to clearly reflect this intent.

Many school districts and manufacturers objected to the parallelepiped clearance requirement for the emergency doors because of the number of seats that would be eliminated and the costs of redesigning van-type school buses to meet the clearance requirements. In addition, many commenters pointed out that the 12-inch aisle in most school buses precludes effective use of a large exit meeting the proposed requirements.

The NHTSA has determined that these arguments have merit. As a result, the proposed parallelepiped requirements have been modified by reducing the height from 48 inches to 45 inches, reducing the depth from 24 to 12 inches for rear exits in buses over 10,000 lbs GVWR, and to 6 inches for rear exits in buses under 10,000 lbs GVWR. For side exits the depth has been eliminated altogether. Additionally, the forward edge of the side door now coincides with a vertical transverse plane tangent to the rearmost point of the adjacent seat, thus permitting simultaneous exiting of two occupants, between the seat backs and over the seat cushion.

In light of the above, 49 CFR § 571.217, *Bus Window Retention and Release*, is amended

Effective date: October 26, 1976.

(Secs. 103, 112, 119, Pub. L. 89-563, 80 Stat. 718; Sec. 202, Pub. L. 93-492, 88 Stat. 1484 (15 U.S.C. 1392, 1401, 1407); delegation of authority at 49 CFR 1.50.)

Issued on January 22, 1976.

Howard J. Dugoff
Acting Administrator
41 F.R. 3871
January 27, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 217

Bus Window Retention and Release

(Docket No. 75-3; Notice 4)

This notice amends Standard No. 217, *Bus Window Retention and Release*, to modify the emergency exit requirements of the standard in response to a petition for reconsideration of recent amendments and after consideration of comments on the agency's proposal to specify new performance options and labeling for emergency exits.

PETITION FOR RECONSIDERATION OF NOTICE 2

The National Highway Traffic Safety Administration (NHTSA) recently amended Standard No. 217 (49 CFR 571.217) to provide emergency exit requirements for school buses (41 FR 3871, January 27, 1976 (Notice 2)). Section S5.2.3.1 of the standard (as it becomes effective for school buses on October 26, 1976) specifies that a rear emergency door shall be hinged on the right side. Chrysler Corporation has petitioned for reconsideration of this provision, asking that a manufacturer option be provided so that the rear emergency door or doors on van-type school buses may be hinged on the right or left.

The purpose of specifying that the rear emergency door hinge to the right is based on the NHTSA finding that school buses often operate on rural highways that are bordered by drainage ditches, and that a school bus that leaves the highway and rolls over is likely to come to rest in the right-hand ditch on its right side. When a bus comes to a rest on its side, the emergency door on the rear of the bus is easier to operate, particularly by small children, if it is hinged so that its operation is assisted by gravity.

Chrysler pointed out that the rear emergency door on van-type school buses is often used routinely for loading and unloading passengers. For this reason, Chrysler offers a single rear

door that hinges at the left side, so that the door swings out of the way to safely accommodate curb-side loading. In the case of larger buses, routine loading and unloading does not occur through the rear emergency door.

The NHTSA agrees with Chrysler that the common practice of curb-side loading through the rear door of van-type school buses justifies a manufacturer option in selecting the side of the door which should be hinged. On balance, the agency considers that the increase in safety for routine curb-side loading through a left-hinged door would outweigh any potential loss of safety benefit for emergency evacuation from a van-type bus that comes to rest on its right side. Accordingly, S5.2.3.1 of the standard is appropriately amended. The agency also takes the opportunity to correct an inadvertent reference to emergency "exit" in S5.2.3.2 when the requirements are actually intended to apply only to an emergency "door."

In a matter unrelated to the Chrysler petition, some uncertainty has arisen over the form of S5.4 as it was revised in Notice 2 to become effective October 26, 1976. Also, the division between buses with a GVWR of 10,000 pounds or less and those with a greater GVWR was imperfectly stated in amending S5.4. For this reason, the amendment of S5.4 is republished in the correct form in this notice. No substantive changes are made in this republication of S5.4.

EMERGENCY EXIT AND LABELING PROPOSAL—NOTICE 3

At the time the amendments just discussed were published, the NHTSA published a proposal to clarify certain emergency exit labeling for all buses, and to replace the established option for school bus emergency exits with a new

option (41 FR 3878, January 27, 1976; Notice 3). Comments were received from the Lanai Road Elementary School Parent-Teachers Association, Gillig Brothers (Gillig), Chrysler Corporation, Mr. Allen Braslow, Crown Coach Corporation (Crown), and International Harvester (IH). No comment was received from manufacturers of transit or intercity buses, or from the manufacturers of body-on-chassis school buses. The National Motor Vehicle Safety Council did not comment on this proposal.

With regard to emergency exit labeling, Mr. Braslow suggested two labeling changes intended to assist bus occupants, as well as a requirement for regular testing of emergency exits in buses in highway service. While the latter suggestion lies beyond the authority of the agency under the National Traffic and Motor Vehicle Safety Act (15 U.S.C. § 1391, et seq.), the agency will consider for future action the suggestion to label all bus exits in the same manner as school bus exits, as well as the suggestion to develop a universal emergency exit insignia with diagrammatic instructions. For the moment, the agency is limited by the extent of its proposal, and accordingly, makes final the changes as proposed.

Standard No. 217 requires (effective October 26, 1976) school buses to provide either a rear emergency door or two side emergency doors in satisfaction of the emergency exit requirements. In Notice 3, the agency proposed to modify this option to require either provision of a rear emergency door or, at the option of the manufacturer, provision of a left-side emergency door and a "California rear window" exit at the rear of the bus. This type of rear window exit provides a large (16 by 48 inch) opening which is more easily utilized than a side emergency door if a bus has rolled onto its side. In the alternative, the agency proposed that the option to use a rear window exit only be allowed in rear-engine buses.

The two manufacturers of transit-type school buses supported the new option, but objected to the alternative proposal that would limit use of the option to rear-engine buses. Both Gillig and Crown build mid-engine school buses with essentially the same configuration as rear-engine buses and consider the rear window exit equally useful in these buses. The agency has considered the

mid-engine design and agrees with the argument made by Crown and Gillig. Accordingly, the agency amends the standard as proposed to apply the option to all school buses. Crown Coach pointed out that the NHTSA proposal to limit rear-window-exit release mechanisms to a single release would necessitate a change in existing hardware. The NHTSA has investigated the available hardware (consisting in all cases of two release mechanisms that are located within 36 inches of each other) and concludes that the only significant safety hazard in some of the designs is that some require simultaneous operation for release. For this reason, the agency will allow not more than two release mechanisms, provided that the two mechanisms do not have to operate simultaneously to effect release. If new designs present a problem of any nature, further rule-making will be undertaken.

In accordance with recently enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 FR 16201, April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this proposal on the public and private sectors, including possible loss of safety benefits. The option to hinge some rear emergency doors on the right or left, and the option to use a "California rear window" do not involve additional expenditures. The agency estimates that these additional exit arrangements will not significantly reduce the level of safety provided in the affected bus categories. The new requirements for more specific operating instructions for school bus emergency exits are calculated to involve annual costs of about \$67,000. Although the agency is unable to quantify the benefit of clearer exit labeling, it is estimated that better instructions will serve to reduce the possibility of death and injury involved in an attempt to use the emergency exits. Therefore, the agency concludes that the amendments should issue as set forth in this notice.

For the benefit of interested persons, it is noted that Docket 75-6 concerning labeling of bus emergency exits is related to this rulemaking.

In consideration of the foregoing, Standard No. 217 (49 CFR 571.217) as it is amended to become effective for school buses on October 26, 1976, is revised. . . .

Effective date: October 26, 1976. The effective date of the amendments numbered 1, 2, 3 and 5 is established as 9 months after the date of issuance of the amendments on which they are based, as required by the Motor Vehicle and Schoolbus Safety Amendments of 1974, Pub. L. 93-492, section 202 (15 U.S.C. 1397(i)(1)(A)). The effective date of the amendment numbered 4 is also established as October 26, 1976, although a manufacturer can meet the requirements at an earlier date if the manufacturer so chooses.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); Sec. 202, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegation of authority at 49 CFR 1.50.)

Issued on May 25, 1976.

James B. Gregory
Administrator

41 F.R. 22356

June 3, 1976

PREAMBLE TO AN AMENDMENT TO FEDERAL MOTOR VEHICLE SAFETY STANDARD NO. 217

Bus Window Retention and Release (Docket No. 75-03; Notice 7)

ACTION: Final rule.

SUMMARY: This notice makes permanent an interim final rule that modified the agency's school bus emergency exit standard. The interim final rule, which was issued in February 1979, was implemented immediately to increase the availability of passenger vans for use as small school buses at reasonable costs. The interim rule slightly altered several emergency exit requirements in a manner that made it easier to mass produce small buses without significantly affecting the level of safety achieved by those vehicles. Concurrent with the issuance of the interim final rule, the agency solicited comments on the amendments to the standard. This notice responds to the comments and makes the interim rule permanent.

EFFECTIVE DATE: Since this notice makes permanent an existing interim final rule, it is effective immediately.

SUPPLEMENTARY INFORMATION: On February 8, 1979, the agency published an interim final rule and a proposal (44 F.R. 7961) to modify the school bus emergency exit safety standard, Standard No. 217, *Bus Window Retention and Release*. In that notice, the agency made effective immediately some modifications to the school bus emergency exit standard to increase the supply of reasonably priced vehicles suitable for school bus conversion. Among the changes implemented by the interim final rule were a slight decrease in the size of rear emergency exits for vehicles (typically passenger vans) with gross vehicle weight ratings (GVWR) less than 10,000 pounds, and increased flexibility in the location requirements for release mechanisms on the emergency exits of small school

buses. The agency concluded at the time the interim rule was issued that the level of safety achieved by small buses would not be diminished by these changes and that the changes would allow more small buses to be mass produced, thereby lowering their prices. The agency also asked in the interim final rule for comments on the advisability of these changes.

In response to the agency's request, Ford, Chrysler, the Center for Auto Safety, and the California Highway Patrol (CHP) submitted comments. The two manufacturers, Ford and Chrysler, both supported the agency's action. The Center and the CHP both opposed the action.

The Center and the CHP both argued that the rear emergency exit in small school buses (passenger vans which have GVWR's less than 10,000 pounds and are used as school buses) should not be reduced in size. The Center stated that the exit should be broad enough for two students to exit simultaneously in case of an emergency. The CHP stressed that reducing the size of the exit would make it too small to permit the exiting of children in wheelchairs.

With respect to the argument that the size of the rear exit should allow room to exit students two abreast, the agency stated in the proposal that this argument, while valid for larger school buses, is not meritorious for school vehicles with GVWR's less than 10,000 pounds. Larger school buses frequently transport 60 or more school children. Accordingly, rapid evacuation of those vehicles in an emergency requires that the students be able to exit two abreast. In order to accomplish this, the agency has required that some space be provided behind the rearmost seat in these buses so that students exiting through the narrow center aisles will have room at the exits to get out two abreast.

In small school buses where the number of students carried frequently is 16 or less, the need for exiting two abreast to achieve rapid evacuation is significantly reduced. In recognition of this factor, the agency has never required bus manufacturers to provide space behind the rear seat of small buses that would allow students to exit two abreast. As a result, the rear seats of small buses are frequently quite near or are against the rear bus wall. Students exiting down a bus aisle, which is normally around 12 inches in width, reach an exit where no space is provided to exit two abreast. Accordingly, any requirement that an exit in small buses be large enough to facilitate exiting two abreast would not accomplish that goal. Small bus manufacturers would need to redesign their bus seat plans in some fashion to provide space behind the rear seat in order to allow exiting two abreast. Such a redesign would significantly decrease the available seating in small buses. Given the fact that evacuating small buses has not been a safety problem, the agency concludes that the cost resulting from the reduced vehicle seating that would be required to accomplish the Center's objectives would far outweigh the benefits. Accordingly, the agency concludes that a broader rear exit is not needed in small school buses.

The CHP objected to the same requirement stating that the new exit door would be too narrow for wheelchairs. The CHP further stated that California has always required wider exits so that wheelchairs can be used in the vehicles.

The agency's new exit requirement is a minimum size requirement for standard school buses. In special instances in which larger exits are desired, such as in buses for carrying the handicapped, the States may require that their buses have such exits. The agency deems that approach to be preferable to its requiring larger exits in all vehicles. The situation with respect to rear door size is analogous to that involving seat back height. The agency requires a minimum seat back height. New York mandates a seat back height greater than the Federal specification. The NHTSA has no objection to the New York requirement and will not object to requirements by other States for wider rear emergency exits. The agency also notes that buses designed for the handicapped constitute a small portion of all buses and usually are equipped with special doors and larger aisles.

The Center also objected to the agency's interpretation that the paralleliped device used for measuring rear door size could be lifted up to 1-inch to overcome small protrusions near the floor. The agency issued an interpretation permitting this at the time of the implementation of the standard. This interpretation simply reflects real-world conditions. Many doors in vehicles have small door sills or other minor protrusions that sometimes serve necessary functions in the proper operation of the door. These minor protrusions play no significant role in the ability of students to exit from a vehicle in an emergency. Therefore, the agency will not reconsider its interpretation.

The Center objected to the agency's removal of exit release mechanism location and force application requirements for small school buses. The Center agreed that the existing requirements are more appropriate for larger buses, but it insisted that the agency should develop another set of location requirements for smaller buses instead of abandoning the requirements entirely.

The agency is sympathetic to the Center's concerns about this issue. The location of the release mechanism for small school buses in an easily accessible location is important for the rapid evacuation of these vehicles in an emergency. However, the mere setting of location requirements would not ensure that the release mechanisms would be accessible. Due to the limited space in the rear of small buses and the variability of design in those areas, the agency could not readily specify a location which would provide the necessary accessibility. The agency believes that allowing manufacturers the option of locating the release mechanism in any easily accessible location on or near the exit will be more beneficial to achieving the intended safety results than any rigid inflexible location requirement. NHTSA anticipates that product liability concerns and the agency's authority to declare inaccessible release mechanisms to be safety-related defects will suffice to induce the manufacturers to select accessible locations. The agency will closely monitor the location and accessibility of the release mechanisms and, if necessary, use both its defects and rulemaking authority to take corrective action.

Finally, the Center objected to the fact that the agency permitted pull-type release mechanisms.

The Center stated that release mechanism standardization is helpful in assuring the safe evacuation of vehicles.

While the agency agrees that standardization has value in this instance, there are competing ways for achieving standardization in the case of small school buses. One way is to require that small school buses have releases that operate with an upward motion as in larger school buses. Another way is to permit small school buses (which, as noted before, are passenger vans) to have the same pull-type releases that are found in other vans and some cars. The agency doesn't believe that either basis for standardization is clearly superior from a safety standpoint to the other. Further, permitting the use of the pull-type releases will enable the manufacturers to achieve cost savings. Accordingly, the agency declines to adopt the Center's recommendation.

Since this notice makes permanent an existing amendment, it is effective immediately. The agency has reviewed the amendment in accordance with E.O. 12291 and concludes that the rule is not significant under the Department of Transportation's regulatory procedures. In fact, by permitting these changes, more buses can be mass produced, which may result in a small decrease in the cost of complying with the

standard. Since the economic impact of this rule is minimal, a regulatory evaluation is not required for this amendment.

The agency has also considered the effect of this rule in relation to the Regulatory Flexibility Act and certifies that it would not have a significant economic impact on a substantial number of small entities. The only economic impact might be a reduction in bus prices. There would similarly be no significant impact on a substantial number of small government jurisdictions and small organizations.

Finally the agency has analyzed this rule for purposes of the National Environmental Policy Act and has determined that it would have no significant impact on the human environment.

Issued on February 10, 1982.

Diane K. Steed
Acting Administrator

47 F.R. 7255
February 18, 1982

MOTOR VEHICLE SAFETY STANDARD NO. 217

Bus Window Retention and Release

S1. Scope. This standard establishes requirements for the retention of windows other than windshields in buses, and establishes operating forces, opening dimensions, and markings for push-out bus windows and other emergency exits.

S2. Purpose. The purpose of this standard is to minimize the likelihood of occupants being thrown from the bus and to provide a means of readily accessible emergency egress.

S3. Application. This standard applies to buses, except buses manufactured for the purpose of transporting persons under physical restraint.

S4. Definitions.

"Push-out window" means a vehicle window designed to open outward to provide for emergency egress.

"Adjacent seat" means a designated seating position located so that some portion of its occupant space is not more than 10 inches from an emergency exit, for a distance of at least 15 inches measured horizontally and parallel to the exit.

"Occupant space" means the space directly above the seat and footwell, bounded vertically by the ceiling and horizontally by the normally positioned seat back and the nearest obstruction of occupant motion in the direction the seat faces.

S5. Requirements.

S5.1 Window Retention. Except as provided in S5.1.2, each piece of window glazing and each surrounding window frame, when tested in accordance with the procedure in S5.1.1 under the conditions of S6.1 through S6.3, shall be retained by its surrounding structure in a manner that prevents the formation of any opening large enough to admit the passage of a 4-inch diameter sphere under a force, including the weight of

the sphere, of 5 pounds until any one of the following events occurs:

(a) A force of 1200 pounds is reached.

(b) At least 80% of the glazing thickness has developed cracks running from the load contact region to the periphery at two or more points, or shattering of the glazing occurs.

(c) The inner surface of the glazing at the center of force application has moved relative to the window frame, along a line perpendicular to the undisturbed inner surface, a distance equal to one-half of the square root of the minimum surface dimension measured through the center of the area of the entire sheet of window glazing.

S5.1.1 An increasing force shall be applied to the window glazing through the head form specified in Figure 4, outward and perpendicular to the undisturbed inside surface at the center of the area of each sheet of window glazing, with a head form travel of 2 inches per minute.

S5.1.2 The requirements of this standard do not apply to a window whose minimum surface dimension measured through the center of its area is less than 8 inches.

S5.2 Provision of Emergency Exits. Buses other than school buses shall provide unobstructed openings for emergency exit which collectively amount, in total square inches, to at least 67 times the number of designated seating positions on the bus. At least 40 percent of the total required area of unobstructed openings, computed in the above manner, shall be provided on each side of a bus. However, in determining the total unobstructed openings provided by a bus, no emergency exit, regardless of its area, shall be credited with more than 536 square inches of the total area requirement. School

buses shall provide openings for emergency exits that conform to S5.2.3.

S5.2.1 Buses with GVWR of more than 10,000 pounds. Except as provided in S5.2.1.1, buses with a GVWR of more than 10,000 pounds shall meet the unobstructed openings requirements by providing side exits and at least one rear exit that conforms to S5.3 through S5.5. The rear exit shall meet the requirements when the bus is upright and when the bus is overturned on either side, with the occupant standing facing the exit. When the bus configuration precludes installation of an accessible rear exit, a roof exit that meets the requirements of S5.3 through S5.5 when the bus is overturned on either side, with the occupant standing facing the exit, shall be provided in the rear half of the bus.

S5.2.1.1 A bus with GVWR of more than 10,000 pounds may satisfy the unobstructed openings requirement by providing at least one side door for each three passenger seating positions in the vehicle.

S5.2.2 Buses with a GVWR of 10,000 pounds or less. Buses with a GVWR of 10,000 pounds or less may meet the unobstructed openings requirement by providing:

(a) Devices that meet the requirements of S5.3 through S5.5 without using remote controls or central power systems;

(b) Windows that can be opened manually to a position that provides an opening large enough to admit unobstructed passage, keeping a major axis horizontal at all times, of an ellipsoid generated by rotating about its minor axis an ellipse having a major axis of 20 inches and a minor axis of 13 inches; or

(c) Doors.

S5.2.3 School buses.

S5.2.3.1 Each school bus shall comply with either one of the following minimum emergency exit provisions, chosen at the option of the manufacturer:

(a) One rear emergency door that opens outward and is hinged on the right side (either side in the case of a bus with a GVWR of 10,000 pounds or less); or

(b) One emergency door on the vehicle's left side that is in the rear half of the bus passenger compartment and is hinged on its forward side, and a push-out rear window that provides a minimum opening clearance 16 inches high and 48 inches wide. This window shall be releasable by operation of not more than two mechanisms which are located in the high force access region as shown in Figure 3C, and which do not have to be operated simultaneously. Release and opening of the window shall require force applications, not to exceed 40 pounds, in the directions specified in S5.3.2.

S5.2.3.2 The engine starting system of a school bus shall not operate if any emergency door is locked from either inside or outside the bus. For purposes of this requirement, "locked" means that the release mechanism cannot be activated by a person at the door without a special device such as a key or special information such as a combination.

S5.3 Emergency exit release.

S5.3.1 Each push-out window or other emergency exit not required by S5.2.3 shall be releasable by operating one or two mechanisms located within the regions specified in Figure 1, Figure 2, or Figure 3. The lower edge of the region in Figure 1, and Region B in Figure 2, shall be located 5 inches above the adjacent seat, or 2 inches above the armrest, if any, whichever is higher.

S5.3.2 When tested under the conditions of S6, both before and after the window retention test required by S5.1, each emergency exit not required by S5.2.3 shall allow manual release of the exit by a single occupant using force applications each of which conforms, at the option of the manufacturer, either to (a) or (b). The release mechanism or mechanisms shall require for release one or two force applications, at least one of which differs by 90 to 180° from the direction of the initial push-out motion of the emergency exit (outward and perpendicular to the exit surface).

(a) Low-force application.

Location: As shown in Figure 1 or Figure 3.

Type of Motion: Rotary or straight.

Magnitude: Not more than 20 pounds.

(b) High force application.

Location: As shown in Figure 2 or Figure 3.

Type of Motion: Straight, perpendicular to the undisturbed exit surface.

Magnitude: Not more than 60 pounds.

S5.3.3 When tested under the conditions of S6., both before and after the window retention test required by S5.1, each school bus emergency door shall allow manual release of the door by a single person, from both inside and outside the bus passenger compartment, using a force application that conforms to paragraphs (a) through (c) [except a school bus with a GVWR of 10,000 pounds or less does not have to conform to paragraph (a). (47 F.R. 7255—February 18, 1982. Effective: February 18, 1982).] Each release mechanism shall operate without the use of remote controls or tools, and notwithstanding any failure of the vehicle's power system. When the release mechanism is not in the closed position and the vehicle ignition is in the "on" position, a continuous warning sound shall be audible at the driver's seating position and in the vicinity of the emergency door having the unclosed mechanism.

(a) *Location:* Within the high force access region shown in Figure 3A for a side emergency door, and in Figure 3D for a rear emergency door.

(b) *Type of motion:* Upward from inside the bus; at the discretion of the manufacturer from outside the bus. [Buses with a GVWR of 10,000 pounds or less shall provide interior release mechanisms that operate by either an upward or pull-type motion. The pull-type motion shall be used only when the release mechanism is recessed in such a manner that the handle, lever, or other activating device does not protrude beyond the rim of the recessed receptacle. (47 F.R. 7255—February 18, 1982. Effective: February 18, 1982)]

(c) *Magnitude of force:* Not more than 40 pounds.

The present S5.4 is renumbered S5.4.1, and the phrase "Each push-out window or other emergency exit shall, after the release mechanism has been operated," is replaced by the phrase "After the release mechanism has been operated, each push-out window or other emergency exit not required by S5.2.3," at the beginning of the paragraph.

S5.4 Emergency exit extension.

S5.4.1 After the release mechanism has been operated, each push-out window or other emer-

gency exit not required by S5.2.3 shall, under the conditions of S6, before and after the window retention test required by S5.1, using the reach distances and corresponding force levels specified in S5.3.2, be manually extendable by a single occupant to a position that provides an opening large enough to admit unobstructed passage, keeping a major axis horizontal at all times, of an ellipsoid generated by rotating about its minor axis an ellipse having a major axis of 20 inches and a minor axis of 13 inches.

S5.4.2 School bus emergency exit extension.

S5.4.2.1 School bus with a GVWR of more than 10,000 pounds. After the release mechanism has been operated, the emergency door of a school bus with a GVWR of more than 10,000 pounds shall, under the conditions of S6, before and after the window retention test required by S5.1, using the force levels specified in S5.3.3, be manually extendable by a single person to a position that permits—

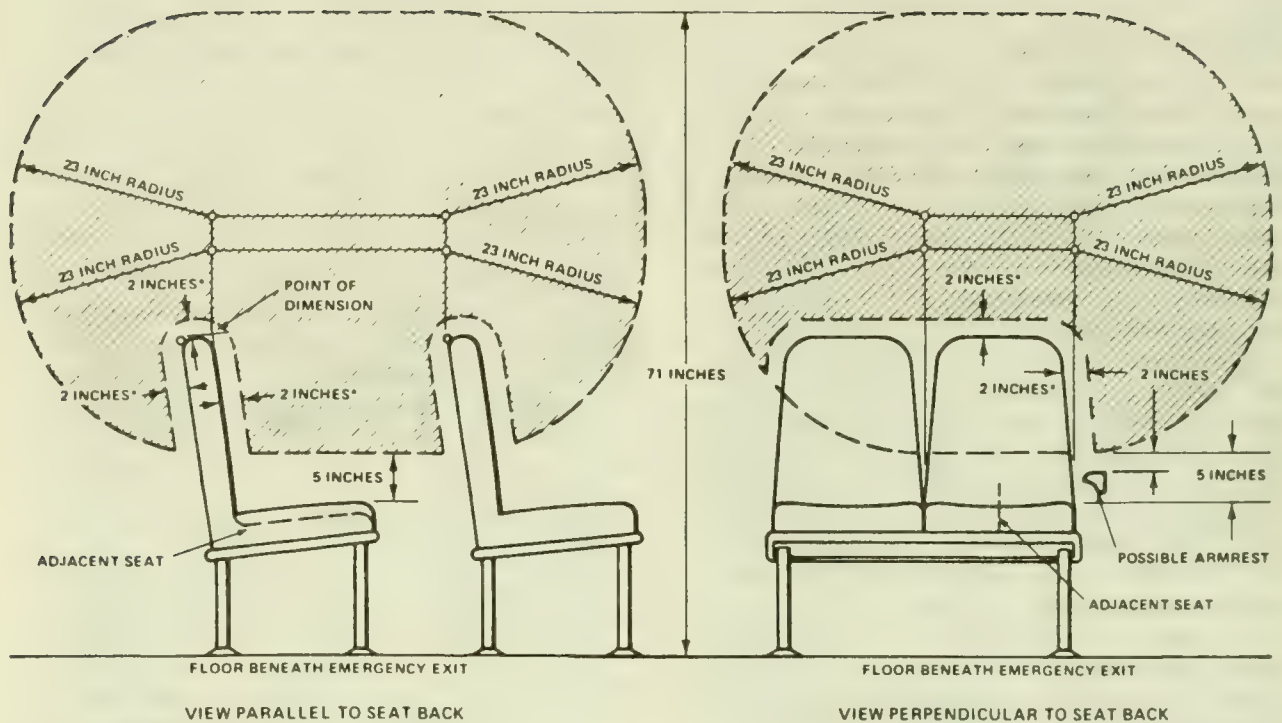
(a) In the case of rear emergency door, an opening large enough to permit unobstructed passage of a rectangular parallelepiped 45 inches high, 24 inches wide, and 12 inches deep, keeping the 45-inch dimension vertical, the 24-inch dimension parallel to the opening, and the lower surface in contact with the floor of the bus at all times; and

(b) In the case of a side emergency door, an opening at least 45 inches high and 24 inches wide. A vertical transverse plane tangent to the rear-most point of a seat back shall pass through the forward edge of a side emergency door.

S5.4.2.1 School Buses Less Than 10,000 Pounds or Less. A school bus with a GVWR of 10,000 pounds or less shall conform to all the provisions of S5.4.2 except that the parallelepiped dimension for the opening of the rear emergency door or doors shall be 45 inches high, 22 inches wide, and 6 inches deep.

S5.5 Emergency exit identification.

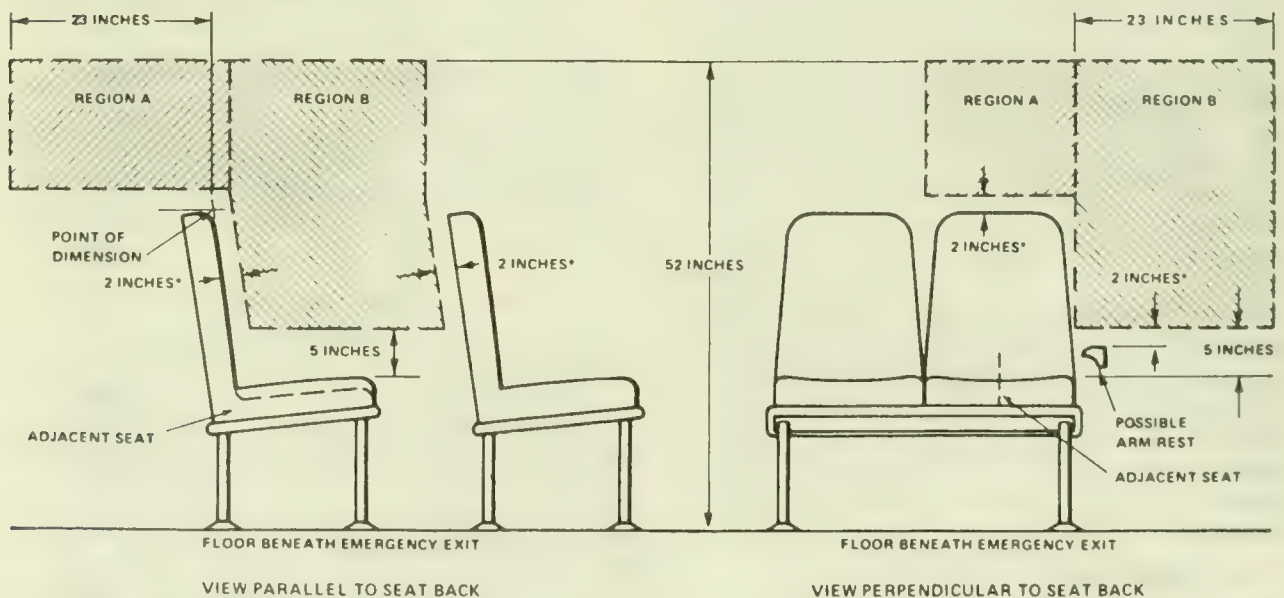
S5.5.1 In buses other than school buses, except for windows serving as emergency exits in accordance with S5.2.2(b) and doors in buses with a GVWR of 10,000 pounds or less, each emergency door shall have the designation "Emergency Door" or "Emergency Exit" and each push-out window or other emergency exit shall have the designation "Emergency Exit" followed by concise operating instructions describing each motion necessary to unlatch and open the exit, located within 6 inches of the release mechanism.



*CLEARANCE AREA AROUND
SEAT BACK, ARM RESTS,
AND OTHER OBSTRUCTIONS

ACCESS REGION IS THE SPATIAL VOLUME CREATED
BY THE INTERSECTION OF THE PROJECTIONS OF THE
AREAS SHOWN IN THE TWO VIEWS

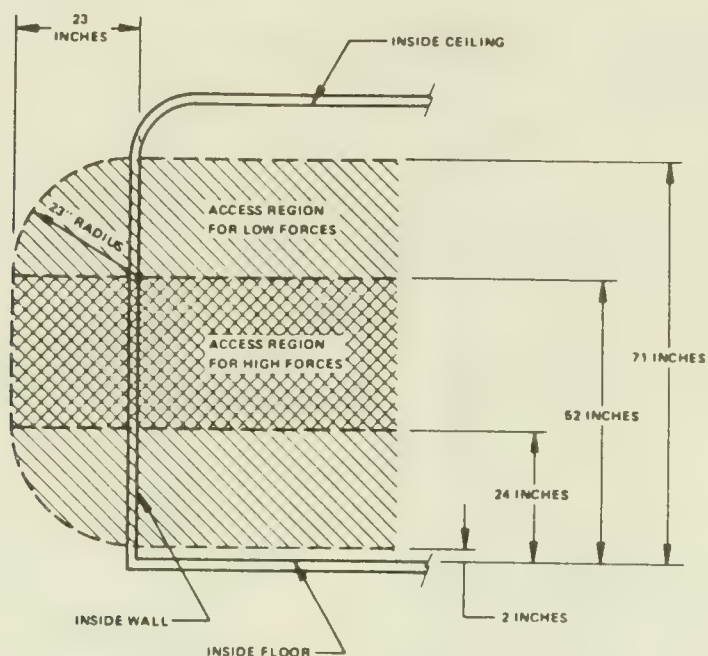
FIGURE 1 LOW-FORCE ACCESS REGION FOR EMERGENCY EXITS HAVING ADJACENT SEATS



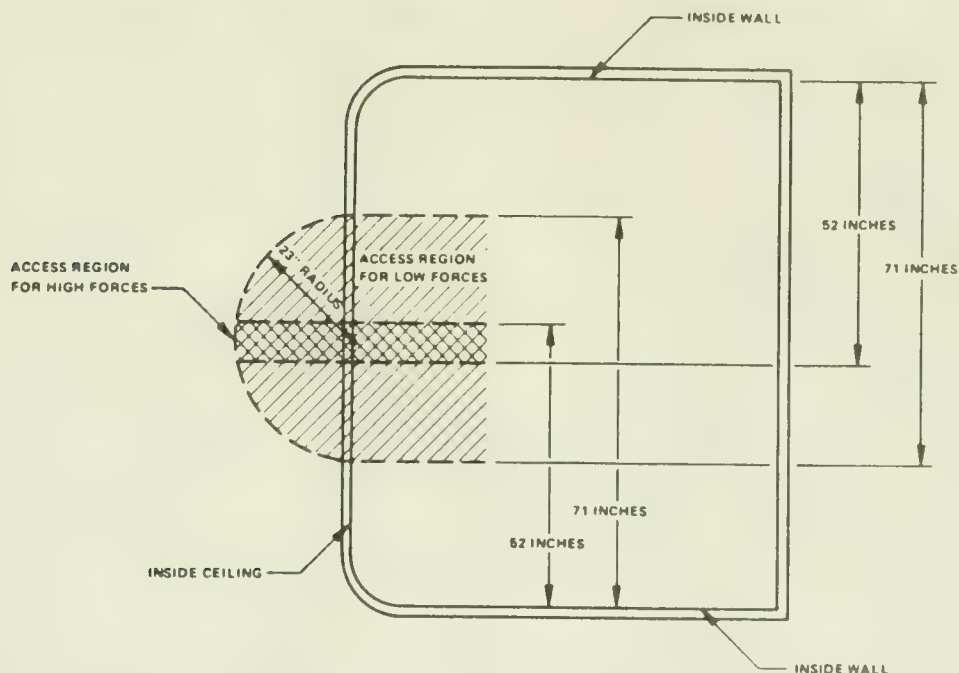
*CLEARANCE AREA AROUND
SEAT BACK, ARM RESTS,
AND OTHER OBSTRUCTIONS

FIGURE 2 HIGH-FORCE ACCESS REGIONS FOR EMERGENCY EXITS HAVING ADJACENT SEATS

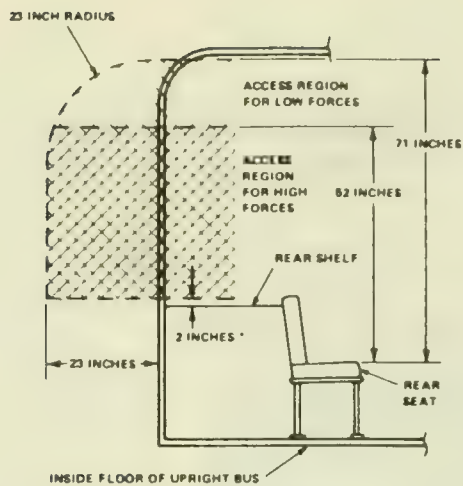
LOW AND HIGH-FORCE ACCESS REGIONS FOR EMERGENCY EXITS WITHOUT ADJACENT SEATS



3A. SIDE EMERGENCY EXIT

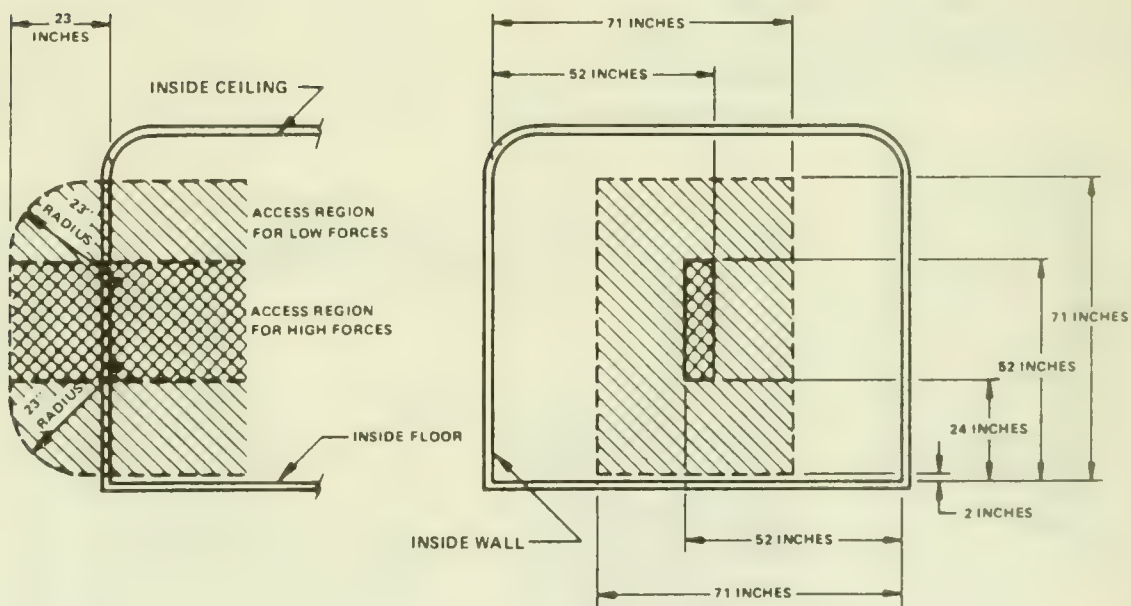


3B. ROOF EMERGENCY EXIT



*TYPICAL CLEARANCE AROUND OBSTRUCTIONS

3C. REAR EMERGENCY EXIT WITH REAR OBSTRUCTION



3D. REAR EMERGENCY EXIT WITHOUT REAR OBSTRUCTION

PART 571; S 217-6

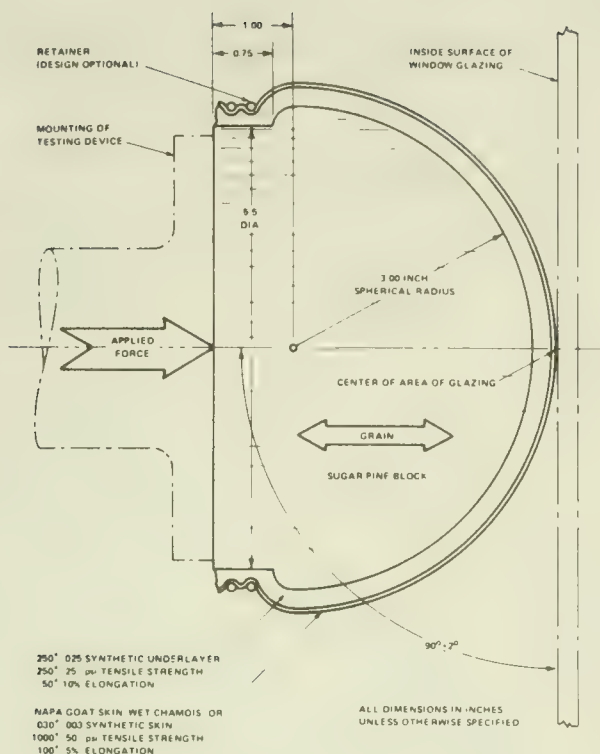


FIGURE 4 HEAD FORM

Examples: (1) Lift to Unlatch
Push to Open

(2) Lift Handle and
Push out to Open

When a release mechanism is not located within an occupant space of an adjacent seat, a label meeting the requirements of S5.5.2 that indicates the location of the nearest release mechanism shall be placed within the occupant space.

Example: Emergency exit instructions located next to seat ahead.

S5.5.2 In buses other than school buses, except as provided in S5.5.2.1, each marking shall be legible, when the only source of light is the normal night-time illumination of the bus interior, to occupants having corrected visual acuity of 20/40 (Snellen ratio) seated in the adjacent seat, seated in the seat directly adjoining the adjacent seat, and standing in the aisle location that is closest to that adjacent seat. The marking shall be legible from each of these locations when the other two corresponding locations are occupied.

S5.5.2.1 If the exit has no adjacent seat, the marking must meet the legibility requirements of S5.5.2 for occupants standing in the aisle location nearest to the emergency exit, except for a roof exit, which must meet the legibility requirements for occupants positioned with their backs against the floor opposite the roof exit.

S5.5.3 School Bus. Each school bus emergency exit provided in accordance with S5.2.3.1 shall have the designation "Emergency Door" or "Emergency Exit," as appropriate, in letters at least 2 inches high, of a color that contrasts with its background, located at the top of or directly above the emergency exit on both the inside and outside surfaces of the bus. Concise operating instructions describing the motions necessary to unlatch and open the emergency exit, in letters at least three-eighths of an inch high, of a color that contrasts with its background, shall be located within 6 inches of the release mechanism on the inside surface of the bus.

Example: (1) Lift to Unlatch
Push to Open

(2) Lift Handle
Push Out to Open.

S6. Test conditions.

S6.1 The vehicle is on a flat, horizontal surface.

S6.2 The inside of the vehicle and the outside environment are kept at any temperature from 70° to 85° Fahrenheit for 4 hours immediately preceding the tests, and during the tests.

S6.3 For the window retention test, windows are installed, closed, and latched (where latches are provided) in the condition intended for normal bus operation.

S6.4 For the emergency exit release and extension tests, windows are installed as in S6.3, seats, armrests, and interior objects near the windows are installed as for normal use, and seats are in the upright position.

37 F.R. 9394
May 10, 1972

PREAMBLE TO MOTOR VEHICLE SAFETY STANDARD NO. 218

Motorcycle Helmets

(Docket No. 72-6; Notice 2)

The purpose of this amendment to Part 571 of Title 49, Code of Federal Regulations, is to add a new Motor Vehicle Safety Standard No. 218, Motorcycle Helmets, 49 CFR § 571.218, that establishes minimum performance requirements for motorcycle helmets manufactured for use by motorcyclists and other motor vehicle users.

A notice of proposed rulemaking on this subject was published on May 19, 1972 (37 F.R. 10097). The comments received in response to the notice have been carefully considered in this issuance of a final rule.

In the previous notice, the NHTSA proposed that, effective September 1, 1974, the performance levels for the impact attenuation requirements be upgraded to that of the Head Injury Criterion (HIC) required by Motor Vehicle Safety Standard No. 208. A number of comments on this subject sought to defer a final determination until further research and additional tests could be conducted. The agency has carefully reviewed the issues raised by these comments and has determined that technical data presently being generated on this matter by several investigations should be considered in upgrading the impact attenuation requirements. Accordingly, a decision on the upgrading will be deferred until after this research has been completed and the results evaluated, and after any appropriate data have been reviewed.

Comments to the docket on the initial impact attenuation requirement ranged from abolishing the time duration criteria of 2.0 milliseconds and 4.0 milliseconds at the 200g and 150g levels, respectively, to increasing these criteria to 2.8 milliseconds at the 200g level and 5.6 milliseconds at the 150g level. One approach taken in regard to this requirement contends that the available test data are insufficient for quantifying time

limits for the relatively short duration accelerations which are involved in helmet testing. Several comments questioned the validity of the proposed time duration limits, since these limits were based on the optional swing-away (as opposed to fixed anvil) test of the American National Standards Institute (ANSI) Standard Z90.1-1966, which was omitted from the most recent issues of the Z90.1 Standard (1971 and 1973) and was not contained in the proposed motorcycle helmet standard. An additional comment points out that helmets designed to meet higher energy impacts than the initial impact attenuation requirement occasionally have difficulty meeting a 2.0 millisecond requirement at the 200g level.

A review of available biomechanical data indicates that the head impact exposure allowed by the 2.0 and 4.0 millisecond limits at the 200g and 150g levels, respectively, is greater than that allowed by other measures of head injury potential. It is the agency's view, moreover, that the best evidence indicates that an increase in the time duration criteria would permit a substantial reduction in the protection provided to the helmet wearer. Since the comments to the docket did not provide any new data or sufficiently compelling arguments which would justify relaxing the proposed limits for tolerable head impact exposure, the 2.0 and 4.0 millisecond criteria are retained as part of the initial impact attenuation criteria.

In response to comments recommending that the allowable weight of the supporting assembly for the impact attenuation drop test be changed to 20% instead of the proposed 10% of the weight of the drop assembly, the NHTSA has determined that such a change would enable more durable testing equipment to be used with-

out any significant effect on test results. Accordingly, this weight limitation has been raised to 20%.

Several comments expressed concern that the proposed 0.04-inch indentation limit included under the penetration test would create problems of measurement. The agency has determined that the intent of this 0.04-inch indentation limit is sufficiently accomplished by the requirement that the striker not contact the surface of the test headform, and the 0.04-inch indentation limit is therefore deleted from the final rule. Further, in consideration of the need to readily detect any contact by the striker, the agency has determined that the contactable surfaces of the penetration test headforms should be constructed of a metal or metallic alloy which will insure detection. Several minor changes in the test conditions for the penetration test have also been made, without altering the substance of those conditions.

A number of comments recommended that where the retention system consists of components which can be independently fastened without securing the complete assembly, such components should not have to individually meet the retention test requirements. Since helmets have a tendency to be thrown off by a crash and motorcyclists sometimes only partially fasten the retention system where such an option exists, the agency has concluded that retention components as well as the entire assembly should meet the test requirements in every fastening mode as specified in the notice of proposed rulemaking.

A number of comments requested that the 105° minimum peripheral vision clearance to each side of the midsagittal plane be increased to 120°. The 105° minimum requirement was proposed because it satisfies a demand by the public for the availability of some helmets which provide added protection to the temporal areas in exchange for a minimal reduction in peripheral vision capability without compromising the safe limits of peripheral vision clearance. A review of available field-of-vision studies and the lack of any evidence to the contrary indicate that 105° minimum clearance to each side of the midsagittal plane provides ample peripheral vision capability. Since the requests for increasing the

minimum clearance to 120° were not accompanied by any supporting data or arguments, the agency has concluded that the standard should allow the additional protection which the 105° minimum clearance would permit and, accordingly, this requirement is retained.

With respect to providing important safety information in the form of labeling, one comment recommended that, due to possible label deterioration, both the manufacturer's identification and the helmet model designation should be permanently marked by etching, branding, stamping, embossing, or molding on the exterior of the helmet shell or on a permanently attached component so as to be visible when the helmet is in use. The NHTSA has determined that the practical effect of this recommendation is accomplished by requiring each helmet to be permanently and legibly labeled. The method to be used to permanently and legibly affix a label for each helmet is therefore left to the discretion of the manufacturer. However, in order that there may be some external, visual evidence of conformity to the standard, the labeling requirement has been further modified to require manufacturer certification in the form of the DOT symbol to appear in permanent form on the exterior of the helmet shell.

One comment recommended that the preliminary test procedures include the application of a 10-pound static test load to the apex of a helmet after it is placed on the reference headform and before the "test line" is drawn to insure that the reference marking will be relatively uniform, thus reducing variances in test results of identical helmets. The agency concurs in this recommendation and it has been included in the standard.

A number of comments objected to the location of the test line. With respect to the proposed requirement that the test line on the anterior portion of a helmet coincide with the reference plane of its corresponding reference headform, it was pointed out that the helmet's brow area would have to be excessively thick in order to meet the impact attenuation criteria at any point less than approximately 1 inch from the brow opening. The data indicate that this objection is valid, and the location of the anterior

test line has been modified by placing it 1 inch above and parallel to the reference plane.

A number of comments objected to the proposed requirement that the test line on the posterior portion of a helmet coincide with the basic plane of its corresponding reference headform. The principal objection expressed concern that, by extending the posterior test line to the basic plane, the resulting increase in the posterior surface of a helmet could cause the helmet to impact the wearer's neck where rearward rotation of the head occurs, thereby increasing the potential for injury in certain cases. After further consideration of this aspect of helmet safety, the agency has determined that the location of the test line on the posterior portion of a helmet should be modified by placing it 1 inch below and parallel to the reference plane.

Several comments questioned the sufficiency of the anatomical dimensions and diagrams provided for the reference headforms in the Appendix of the notice of proposed rulemaking. Of these comments, two proposed adopting the dimensional specifications of the existing ANSI Z90.1 headform, while a third recommended the

inclusion of an additional reference headform to accommodate their smallest child helmet. The agency has concluded that, in order to promote greater uniformity in testing and more repeatable results, one of the reference headforms should have the dimensional specifications of the readily available Z90.1 headform, the others being scaled proportionally, and that a reference headform for smaller child helmets should be added. Accordingly, the Appendix has been revised to reflect these changes.

Effective date: March 1, 1974.

In consideration of the foregoing, a new Motor Vehicle Safety Standard No. 218, Motorcycle Helmets, is added as § 571.218 of Title 49, Code of Federal Regulations, as set forth below.

(Secs. 103, 112, 119, Public Law 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1407; delegation of authority at 49 CFR 1.51.)

Issued on August 9, 1973.

James B. Gregory
Administrator

38 F.R. 22390
August 20, 1973

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 218

Motorcycle Helmets

(Docket No. 72-6; Notice 3)

The purpose of this notice is to respond to petitions for reconsideration and petitions for rulemaking to amend Motor Vehicle Safety Standard No. 218, *Motorcycle Helmets* (49 CFR 571.218).

Standard No. 218, published on August 20, 1973, (38 F.R. 22390), established minimum performance requirements for helmets manufactured for use by motorcyclists and other motor vehicle users. Pursuant to 49 CFR 553.35, petitions for reconsideration were filed by the Safety Helmet Council of America (SHCA) and Lear-Siegler, Inc., Bon-Aire Division. Additionally, pursuant to 49 CFR 553.31, petitions to amend the standard were filed by the Z-90 Committee of the American National Standards Institute, Midwest Plastics Corp., Approved Engineering Test Laboratories, Bell-Toptex, Inc., Premier Seat and Accessory Co., Safetech Co., Sterling Products Co., Inc., Lanco Division of Roper Corp., American Safety Equipment Corp., and Electofilm, Inc.

In response to information contained in both the petitions for reconsideration and the petitions for rulemaking, the standard is being amended in some minor respects, and its effectiveness is temporarily suspended for helmets that must be tested on headform sizes A, B, and D. Requested changes in other requirements of the standard are denied.

1. *Effective date.* The NHTSA received comments from Royal Industries/Grant Division, Jefferson Helmets, Inc., and Rebcor, Inc., urging that the March 1, 1974, effective date be reaffirmed and stating that they either have already produced or could produce helmets by that date which meet the standard's requirements. The NHTSA commends these manufacturers for

their outstanding efforts and their positive attitude toward producing safer products.

The parties who submitted petitions, however, all requested some postponement of the standard's effective date. The postponement requests ranged from an indefinite extension to a delay until the manufacturers are able to test helmets to the required headforms, and were sought on the following three grounds: (1) additional time in order to obtain headforms required for reference marking and testing; (2) alleged inadequacy of the headform diagrams provided in the final rule; and (3) inability to find a supplier or forge for the K-1A magnesium alloy required for the impact attenuation test headforms.

As explained in the preamble to the standard, the headforms provided in the Appendix of the notice of proposed rulemaking (May 19, 1972, 37 F.R. 10097), were changed by the agency in order to utilize the readily available Z90.1 headform and to promote greater uniformity in testing and more repeatable results. In view of the fact that the size C headform of the final rule is identical to the Z90.1 headform, is readily available in test laboratories, is used for several on-going certification programs, and that the other headforms are scaled proportionally, the NHTSA anticipated that competition would motivate both the manufacturers and the test laboratories to take the initiative either to obtain or to produce the other required headforms. It now appears that the problem of finding a supplier or forge for the K-1A magnesium alloy required for the A, B, and D impact attenuation test headforms is substantial enough to justify the requests for a postponement of the standard's effective date for helmets that must be tested on headform sizes A, B, and D.

Because the NHTSA determined that the size C headform would be identical to the Z90.1 headform, the low resonance magnesium alloy (K-1A) specified for making the Z90.1 headform also was specified for headforms required by the standard. Statements that it might be difficult to find suppliers or forges for the material were first made in the petitions on the standard. The NHTSA has determined that other low-resonance magnesium alloys can be substituted for the K-1A type without causing significant variances in the results of any of the helmet tests, so that manufacturers can determine compliance without undue cost penalties even where the K-1A alloy is in short supply. Accordingly, the K-1A alloy is retained as the basic headform material for the standard.

In view of the foregoing considerations with particular emphasis on the fact that testing services through commercial testing laboratories have been readily available for several years for the ANSI Z90.1 Standard headform, which is the size C headform of the standard, the requests for postponing the standard's effective date are denied with respect to helmets that fit headform C.

The petitions for a postponement of the effective date are granted, however, with respect to helmets that must be tested on headforms A, B, and D. A sentence is being added to the Application section of the standard, excepting from its coverage helmets that must be tested on these headform sizes. The second sentence in S6.1.1 of the standard relating to the selection of a reference headform to be used for reference marking should be disregarded until the standard is made effective for helmets that must be tested on headform sizes A, B, and D. To facilitate both the production and availability of headforms, the NHTSA has contracted with the Snell Memorial Foundation to monitor the preparation of detail drawings and model headforms consistent with the requirements of the standard. The drawings and headforms will be included in the docket for public examination upon their completion. A review of the leadtime information provided by the comments to the docket indicates that approximately 8 months of manufacturer leadtime will be needed after the detail dimensional drawings of the A, B, and D head-

forms become available. When the drawings are available, notice to that effect will be published in the Federal Register. The planned effective date for the A, B, and D-size helmets is 8 months from the date of the publication of that notice.

2. *Time duration criteria for impact attenuation test.* Petitions on the impact attenuation test time duration criteria of paragraphs S5.1(b) ranged from eliminating the time duration criteria of 2.0 milliseconds and 4.0 milliseconds at the 200g and 150g levels, respectively, to increasing these criteria to 3.0 milliseconds at the 200g level and 6.0 milliseconds at the 150g level. None of these petitions raised any issues or submitted any data different from those already considered by the NHTSA. The available biomechanical data indicate that the head impact protection provided to the helmet user by the standard's time duration criteria is greater than that which would result from the proposed changes, and the 2.0 and 4.0 millisecond criteria are retained.

3. *Conditioning period.* One petitioner requested that the 24-hour conditioning requirement for each of the four impact tests in paragraph S6.3 be modified to "4 to 24 hours," consistent with the requirements of ANSI Z90.1, arguing that 4 hours is sufficient to condition a helmet to the various environmental conditions required for the respective tests without compromising the intent of the standard. Upon further study of this matter, the NHTSA has concluded that, although 4 hours would not be sufficient as a general condition, changing the conditioning period to 12 hours would facilitate product testing without compromising the intent of the standard. Accordingly, paragraph S6.3, "Conditioning," is revised by changing the "24-hour" conditioning requirement to "12 hours" in each place the 24-hour requirement appears.

4. *Low temperature conditioning requirement.* Three petitioners objected to the -20° F. low temperature conditioning requirement in paragraph S6.3(b) on the basis that the requirement is overly severe. On review of available information, this agency has determined that precise data on the best low temperature requirements for testing are not available. Pending receipt of more specific information, therefore, the cold

temperature requirement of 14° F. that has been used up to now by the American National Standards Institute appears to be the most appropriate. Accordingly, paragraph S6.3(b), "Low temperature," is revised by changing the "-20° F." conditioning requirement to "14° F."

5. *Projections.* One petitioner requested that paragraph S5.5, "Projections," be changed to permit a maximum rigid projection inside the helmet shell of 0.080 in. with a minimum diameter of 0.150 in. The basis for this request is to allow for the use of eyelets and rivets for attachment of snaps for face shields and retention systems. The NHTSA is concerned that due care be exercised with regard to minimizing the injury producing potential of such fasteners. Eyelets and rivets for the attachment of snaps should be designed to form a portion of the continuous surface of the inside of the helmet shell. Where they are so designed, such attachments would not be "rigid projections." Accordingly, no revision to this requirement is necessary.

6. *Labeling.* One petitioner recommended that the labeling requirements in paragraph S5.6 be clarified with the help of manufacturers and other interested parties. Since the petitioner did not specify the points requiring clarification and because no other comments were received on this subject, the NHTSA has determined that no sufficient reasons have been given to change the labeling requirements.

In consideration of the foregoing, 49 CFR 571.218, Motor Vehicle Safety Standard No. 218, *Motorcycle Helmets*, is amended. . . .

Effective date: March 1, 1974.

(Secs. 103, 112, 119, Public Law 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1407; delegation of authority at 49 CFR 1.51.)

Issued on January 23, 1974.

James B. Gregory
Administrator
39 F.R. 3554
January 28, 1974

PREAMBLE TO AN AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 218

Motorcycle Helmets

(Docket No. 72-6; Notice 06)

ACTION: Final Rule.

SUMMARY: The purpose of this notice is to amend Safety Standard No. 218, *Motorcycle Helmets*, to extend application of the current requirements to all helmets that can be placed on the size "C" headform. The amendment is an interim rule requiring the certification of all large-size and many small-size helmets, and will be in effect until test headform sizes "A" and "D" have been developed and incorporated in the standard. This extended application of the standard will establish a minimum level of performance for a large number of helmets that are currently not being tested and certified by manufacturers, but which are suitable for testing on the size "C" headform.

EFFECTIVE DATE: May 1, 1980.

ADDRESSES: Any petitions for reconsideration should refer to the docket number and notice number and be submitted to: National Highway Traffic Safety Administration, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Mr. William J. J. Liu, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, Washington, D.C. 20590 (202-426-2264)

SUPPLEMENTARY INFORMATION: For reasons discussed below, on September 27, 1979, the NHTSA published a notice of proposed rulemaking to require, as an interim measure, the testing and certification of all motorcycle helmets that can be placed on the size "C" headform as described in

Safety Standard No. 218 (44 FR 55612). Only one comment was received in response to that notice, supporting the proposal.

Safety Standard No. 218, *Motorcycle Helmets* (49 CFR 571.218), specifies minimum performance requirements for helmets designed for use by motorcyclists and other motor vehicle users. Currently, the standard is only applicable to a portion of the annual helmet production. Paragraph S3 of the standard provides:

*** The requirements of this standard apply to helmets that fit headform size C, manufactured on or after March 1, 1974. Helmets that do not fit headform size C will not be covered by this standard until it is extended to those sizes by further amendments.

"Fitting" is intended to mean something that is neither too small nor too large. It excludes not only helmets that are too small to be placed on the size "C" headform, but also helmets so large that they could be placed on the size "D" headform were it available. As explained below, that headform size is not currently available.

The standard references and describes in its appendix four test headform sizes ("A", "B", "C", and "D"). Currently only test headform size "C" has been developed, and it is identical to the American National Standard specifications for Protective Headgear for Vehicular Users, ANSI Z90.1-1971. The other test headforms are to be scaled proportionately from the ANSI Z90 (size "C") headform. The performance requirements of the standard for helmets fitting other than size C headforms were held in abeyance until these additional headform sizes could be developed (39 FR 3554, January 28, 1974). Because of problems with prototype headforms supplied to NHTSA under contract (the headforms did not meet

dimensional tolerances considered acceptable), development of these additional headforms has been delayed over the past years. However, the agency now anticipates that the standard will include requirements for headform sizes "A" and "D" effective April 1, 1982 (size "B" will be deleted from the standard).

Last year, the Safety Helmet Council of America (SHCA) recommended that the agency require certification of all adult-size helmets on the size "C" headform. The SHCA stated that the delay in development of the additional headform sizes has led to confusion and unfair practices since many helmets are reportedly being improperly certified and many other helmets are not being certified that are required to comply with the standard. The agency has stated in the past that only helmets that are subject to compliance with Standard No. 218 should be certified and labeled with the "DOT" symbol. Apparently, some manufacturers have used the "DOT" label on untested helmets for competitive purposes. The SHCA stated that these practices have placed considerable burdens on the integrity of manufacturers of high quality helmets. The organization pointed out that under the ANSI standard only one headform (size "C") was used to test all helmets except child-size helmets, and that approximately 95 percent of current helmet production could and should be tested on the size "C" headform and certified for compliance with Standard No. 218.

The NHTSA Office of Vehicle Safety Standards has investigated the current labeling and certification practices of helmet manufacturers. It was found that most manufacturers currently test only "medium" size helmets on the size "C" headform, yet there is considerable variation among manufacturers as to which helmets are considered medium. Further, the agency found that the percentage of helmets subject to certification under the current applicability of the standard is substantially greater than the 40 percent that manufacturers are now testing on the size "C" headform. (Data from the investigation have been placed in the NHTSA docket under the docket number of this notice.)

As stated earlier, under the existing applicability requirements of the standard, only helmets that "fit" headform size "C" must be certified. Apparently, interpretation of the term "fit" by

manufacturers has led to some mislabelings and failures to certify. Under the existing requirements, "helmets that fit headform size C" should be all helmets other than those that must be tested on the other headform sizes. To determine which helmets must be tested on a particular headform size, one follows the procedures of paragraph S6.1.1 of the standard. That paragraph provides in part:

* * * Place the complete helmet to be tested on the reference headform of the largest size specified in the Appendix whose circumference is not greater than the internal circumference of the headband when adjusted to its largest setting, or if no headband is provided to the corresponding interior surface of the helmet.

Using the procedure of paragraph S6.1.1, manufacturers currently need only concern themselves with headform sizes "C" and "D", since small, child-size helmets that could not physically be placed on the size "C" headform would not have to be tested. As to the other helmet sizes, helmets that "fit headform size C" means any helmet that can be placed on the size "C" headform, except those helmets which the manufacturer can demonstrate could be placed on a size "D" headform. To make that demonstration, the manufacturers would have to show that the internal circumference of the helmet headband or the corresponding interior surface of the helmet is larger than the circumference of the size "D" headform. Even though the size "D" headform is not currently available, the dimensions of the headform are specified in the appendix of the standard, from which the manufacturer can make its determination. Regarding small, child-size helmets, the determination whether or not a particular helmet can be placed on the size "C" headform should be based on normal fitting procedures. This means, for example, that undue force should not be applied to forcibly push the headform into the helmet. However, efforts necessary for the ordinary wearing of the helmet should be employed, such as expanding the lower portions of a flexible-shell, full-face helmet. Apparently, many manufacturers have failed to use these procedures for determining which of their helmets "fit" headform size "C" and must be certified.

In light of the improper certification and the noncertification, the unavailability of the additional headform sizes at the present time, the

need to ensure the safe performance of the large helmets and the apparent sufficiency of the size "C" headform for testing large helmets, the agency has concluded that the recommendations of the Safety Helmet Council of America have merit. Therefore, this notice amends Safety Standard No. 218 to require all motorcycle helmets that can be placed on the size "C" headform to be certified in accordance with the requirements of the standard. "Placed" is a broader term than "fit" primarily in that the former term does not imply any upper limit on helmet size.

Under these interim requirements, more than 90 percent of current helmet production will be tested on the size "C" headform. Only small, child-size helmets (size "A") will be excluded since they cannot physically be placed on the size "C" headform. As noted in the procedures discussed above, normal fitting procedures are used to determine if a particular helmet can be placed on the size "C" headform, without the use of undue force.

During its investigation, the NHTSA contacted manufacturers whose collective market share exceeds 80 percent of current annual helmet production. All of these manufacturers indicated that 90 percent or more of their helmet production could be placed and tested on the size "C" headform. Many of the manufacturers indicated that they are already testing the majority of their helmets on the size "C" headform for quality-control purposes, even though not required by the standard. Also, it was found that helmet shells and performance characteristics of a particular manufacturer's helmets do not generally vary significantly over the various size ranges of helmets produced.

This amendment is only an interim measure to establish a minimum level of performance for the large number of helmets that are currently not being certified for compliance with Standard No. 218. Testing extra-large helmets on the size "D" headform would require a higher level of performance for those helmets, since the weight of the size "D" headform is greater than that of the size "C" headform. Therefore, development of the size "A" and size "D" headforms has continued, and incorporation of requirements in the standard for these headforms will occur after development is completed. However, until this is accomplished,

the agency believes that the performance level that will be required by testing on the size "C" headform is preferable to an absence of any requirements whatsoever. As stated earlier, the ANSI standard for helmets specifies only one headform size ("C") for testing all helmets. The additional headform sizes were originally specified in Standard No. 218 in response to suggestions from some manufacturers that requirements be more "fine-tuned" for the various helmet sizes.

The agency has concluded that the new requirements will preclude the great majority of unsafe helmets currently on the road. Further, with all adult helmets certified, retailers and consumers will no longer be confused or misled concerning the DOT certification labels found in their helmets, and NHTSA's enforcement activities will become more effective and uniform.

Under these new requirements, extra-large helmets should be tested on the size "C" headform without the use of "shims" or other devices to obtain a secure fit of the helmet on the headform. Agency tests involving extra-large helmets on the size "C" headform show results that correlate well with tests of medium-size helmets on the size "C" headform. (Data from these tests have been placed in the NHTSA docket). Therefore, the agency has concluded that repeatable results can be obtained under the existing procedures with the size "C" headform.

The effective date for extending the applicability of Standard No. 218 to all helmets that can be placed on the size "C" headform is May 1, 1980. The agency's past position has been that it would be "false and misleading," within the meaning of the statute (15 U.S.C. 1397(C)), for a "DOT" symbol to appear without qualification on helmets manufactured before the effective date of the standard. However, since the standard is currently effective for helmets that fit size "C" headforms, and since there is such a widespread variation among manufacturers as to which helmets they consider to fit the size "C" headform, the agency will allow voluntary certification and labeling of helmets prior to May 1, 1980. This, of course, would only apply to helmets that can be placed on the size "C" headform. Small helmets that could not be placed on the headform could not be certified with the "DOT" symbol until after the

standard has been amended to include specifications for the size "A" headform. Also, helmets certified and labeled with the "DOT" symbol prior to the May 1, 1980, effective date will be subject to the general enforcement provisions of the National Traffic and Motor Vehicle Safety Act. Therefore, manufacturers will have to exercise "due care" to assure that any helmet they certify in fact complies with the performance requirements of Standard No. 218.

The agency has determined that this amendment does not qualify as a significant regulation under Executive Order 12044, "Improving Government Regulations." A final regulatory evaluation of this amendment has been placed in the docket for the benefit of all interested persons.

The engineer and lawyer primarily responsible for the development of this notice are William J. J. Liu and Hugh Oates, respectively.

In consideration of the above, paragraph S3 of Safety Standard No. 218, *Motorcycle Helmets* (49 CFR 571.218), is amended to read as follows:

§ 571.218 *Standard No. 218; motorcycle helmets.*

* * * * *

S3. *Application.* This standard applies to helmets designed for use by motorcyclists and other motor vehicle users. The requirements of this standard apply to all helmets that can be placed on the size C headform using normal fitting procedures. Helmets that cannot be placed on the size C headform will not be covered by this standard until it is extended to those sizes by further amendment.

* * * * *

(The second sentence in S6.1.1 of the standard relating to the selection of a reference headform should be disregarded until the standard is made effective for helmets that must be tested on headform sizes A and D.)

Issued on February 29, 1980.

Joan Claybrook
Administrator

45 F.R. 15179
March 10, 1980

PREAMBLE TO AN AMENDMENT TO FEDERAL MOTOR VEHICLE SAFETY STANDARD NO. 218

Motorcycle Helmets (Docket No. 85-11; Notice 2)

ACTION: Final Rule

SUMMARY: This rule announces changes to Federal Motor Vehicle Safety Standard 218, *Motorcycle Helmets*. On September 27, 1985, the agency proposed to extend its performance requirements for the first time to all helmet sizes and to improve its test procedures and conditions. In addition, the agency requested comments on several cost-related questions and issues related to possible future motorcycle helmet rulemakings. This final rule responds to the public comments and amends the motorcycle helmet safety standard. This improved standard will benefit motorcyclists, moped and other motor vehicle users who wear motorcycle helmets.

EFFECTIVE DATE: October 3, 1988.

SUPPLEMENTARY INFORMATION:

Background

Section 103 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1392) requires the establishment of Federal safety standards for motor vehicles and motor vehicle equipment. These standards are amended by the National Highway Traffic Safety Administration (NHTSA) as appropriate, such as when new safety data become available or technological developments warrant.

The agency's first Federal motor vehicle safety standard for motorcycle helmets (FMVSS 218) became effective in 1974. Although this standard has been demonstrated to be a significant factor in the reduction of critical and fatal injuries involving motorcyclists in motorcycle accidents, the standard has thus far not applied to all motorcycle helmets sold in the United States. Because of limited availability of headforms on which to test motorcycle helmets, FMVSS 218 previously applied only to motorcycle helmets that could be "placed on" the available size C headform. As a practical matter, this has limited the application of the standard to medium and large motorcycle helmets, since small motorcycle helmets could not be placed on the size C headform. Small helmets constitute approximately 10 percent of the motorcycle helmet market.

A manufacturer of a motorcycle helmet subject to FMVSS 218 must certify that the helmet meets all of the standard's requirements. Those requirements include performance requirements for helmets for impact attenuation (shock absorption), penetration resistance (a sharp object striking the helmet), and retention (chin strap strength). Tests to determine compliance with these requirements are conducted under prescribed conditions, with the helmet secured to a metal test headform. In addition, FMVSS 218 establishes requirements dealing with peripheral vision, labeling, and internal and external projections.

Current FMVSS 218

The first of the three principle performance requirements in FMVSS 218 is that a motorcycle helmet must exhibit a minimum level of shock absorbency upon impact with a fixed, hard object. Compliance is determined by a two-part impact attenuation test. This test involves placing motorcycle helmet on the test headform and dropping the headform and helmet (known as the headform assembly) in a guided free fall first onto a flat steel anvil and then, in a separate test, onto a hemispherical steel anvil. Each helmet is impacted at four sites with two successive, identical impacts at each site, at any point on the area above a prescribed test line. Two of these sites are impacted upon the flat anvil by dropping the headform assembly from a height of 72 inches (182.9 centimeters), and two sites are impacted upon the hemispherical anvil from a height of 54.5 inches (138.4 centimeters).

The impact attenuation requirement is expressed as limits on the acceleration levels of the headform and is quantified in g's, the gravitational acceleration, and used as the unit of acceleration. The acceleration level relates directly to the impact on the brain. The greater the number of g's, the greater the force or impact energy that is applied to the brain. A number of test studies (including the 1980 study by the Japanese Automobile Research Institute, discussed later in this preamble) express the threshold of injury to the human brain in g's. Standard 218 limits acceleration to a peak level of 400g and requires that no helmet exceed 200g for a cumulative

duration of more than 2.0 milliseconds and 150g for a cumulative duration of more than 4.0 milliseconds.

Four impact attenuation tests must be conducted within a specified time limit (discussed later in this preamble) and each must be conducted after the helmet has been conditioned in one of four conditioning environments for 12 hours. These conditioning environments are:

- (a) Ambient conditions: exposure to 70°F (21°C) and relative humidity of 50 percent.
- (b) Low temperature: exposure to 14°F (−10°C).
- (c) High temperature: exposure to 122°F (50°C).
- (d) Water immersion: with water at 77°F (25°C).

The second performance requirement is a penetration test, in which a metal striker is dropped 118.1 inches (3.0 meters) in a guided free fall onto a stationary helmet. Two penetration blows are applied at least 3 inches (7.6 centimeters) apart from each other and at least three inches from the centers of the impact attenuation blows. To meet the performance requirement, the striker may only come in contact with the helmet and may not come in contact with the surface of the headform. The penetration test, like the impact attenuation test, is conducted within certain time constraints and with the helmet conditioned in the four previously mentioned environments.

The third performance requirement of Standard 218 tests chin strap strength. It requires that the retention system or any component of the retention system of a motorcycle helmet be able to withstand a preliminary load of 50 pounds (22.7 kilograms) of tensile force (for 30 seconds) and then a test load of an additional 250 pounds (113.4 kilograms) (for 120 seconds). To meet the performance requirement, the helmet retention system may not break during the times loads are applied and the adjustable portion of the retention system device may not move more than one inch between preliminary and test load conditions. If a retention system consists of components, each component must meet these requirements. As with the impact attenuation and penetration tests, the motorcycle helmet must be exposed to the four conditioning environments before being tested for the retention requirements.

Standard 218 also prescribes requirements for labeling, projections, and peripheral vision requirements. A manufacturer must permanently affix to each helmet labeling which includes the manufacturer's name or identification, precise model designation, size, month and year of manufacture, and, as a certification of compliance with the standard, the DOT symbol. The labeling requirements also provide that the manufacturer must supply to the purchaser information concerning shell and liner composition, cleaning instructions, and warnings to make no modifications, and to have the helmet checked by the manufacturer or destroyed if it experiences a

severe blow. This additional information may be conveyed on a tag attached to the helmet, or by other appropriate means.

Standard 218 does not allow any rigid projections inside the shell and limits those outside the shell to those needed to operate essential accessories. An external protrusion may not be more than .20 inch (the new provision adopted in this rulemaking is .20 inch; the currently effective limit is .19 inch). Finally, Standard 218 requires that the helmet provide a minimum of 105° peripheral vision to either side of the mid-sagittal plane (the middle of the face).

Each manufacturer must certify that its helmets meet the performance requirements of the standard before the helmets are offered for sale. The test procedures in Standard 218 specify the manner in which procedures will be conducted by any laboratory under contract with NHTSA to test helmet compliance. Additional details on how the tests are to be conducted are contained in NHTSA Laboratory Procedure for Motorcycle Helmet Testing (TP-218-02; October 18, 1984).

The Proposed Rule and Public Comment

The agency proposed changes to FMVSS 218 on September 27, 1985 (50 FR 39144). In addition to specific changes in the Standard, the agency sought public comment on eight cost-related questions and six issues for possible future rulemaking. In response, the agency received public comments for four motorcycle helmet manufacturers (Bell Helmets, Inc., Florida Safety Products, Inc., Javelin, Inc., and Marushin Kogyo Co., Ltd) and from one company that manufactures test equipment and tests motorcycle helmets (United States Testing Company, Inc.). The proposed changes, the issues raised by the agency for possible future rulemaking, as well as public comment submitted on these, are discussed below.

Applicability of Standard to All Helmets (S3). The principal change in FMVSS 218 is the extension of the standard to all motorcycle helmet sizes. It has been the agency's intention since it promulgated its first motorcycle helmet safety standard to extend this standard to all helmets as soon as practicable. The principal cause of the delay in doing this has been the lack of availability of headforms other than the size C headform. This situation resulted in limited application of the standard, since small motorcycle helmets were not able to be placed on the size C headform to be tested and thus were not required to be certified as complying with FMVSS 218.

This impediment no longer exists, because the agency has developed three new test headforms, small, medium, and large, which will replace the single size C headform. The September 27, 1985, proposed rule contained a lengthy description of the process used to develop these headforms. The basic steps

included the development of a numerical table describing the exterior geometry of old size C headform and the creation of a new medium headform based on the table. The table then was used to derive the measurements for a small headform and a large headform, using a scaling factor of 0.8941 for the small headform and a scaling factor of 1.069 for the large headform. Detailed specifications for the headforms are contained in the Appendix to the final rule; these specifications should ensure that each headform can be accurately cast and/or machined.

As the result of testing, the agency believes that helmets previously tested on the size C headform will achieve comparable results on the new medium headform. In addition, the three new headforms will provide a more reliable fit for all helmets being tested, thereby increasing the repeatability of the testing.

For the first time, the agency proposed details on the interior geometry of the headform. While the proposal would allow the agency to retain some flexibility on the details of the interior of the headform (to allow for differently designed support assemblies and still retain the ability to meet the standard's test headform and support assembly weight requirement for the impact attenuation test), the level of specificity would be sufficient to establish a fixed center of gravity for the test headform—the center of the ball socket joint. Being able to fix the center of gravity (and, thus, fix the location of the accelerometer as well, since the accelerometer is located at the headform's center of gravity) also enhances the test's repeatability.

No specific comments were received on the development of the new headforms, although United States Testing Company, Inc., (U.S. Testing) stated that it generally supported the proposed changes in the proposed rule. In addition, Javelin, Inc., (Javelin) stated that it did not oppose the proposed test headform system. The final rule adopts the new small, medium, and large headforms as proposed.

Since the proposed dimensions of the exterior and interior of the headforms were published, the agency has noted in the FMVSS 218 rulemaking docket that the manufacturer of the headforms used for the agency's testing has made minor modifications to the interior of the headform. The manufacturer has changed the size of the four holes inside the headform for the tie-down screws from $\frac{1}{4}$ inch-20 helical coil insert to $\frac{5}{16}$ inch-18 helical coil insert. These changes have been made to all headform sizes to increase the holding power of the screws to the headform. These changes also may reduce the frequency of adjustments to the monorail test equipment, especially when the large test headform is used. These changes are reflected in Figures 6, 7, and 8 in the Appendix to the Standard.

Impact Attenuation Test (S5.1). The current impact attenuation performance test limits the acceleration levels of the test headform. Expressed in g's, a test

headform acceleration level is limited to a maximum of 400g. In addition, acceleration in excess of 200g is limited to a cumulative duration of 2.0 milliseconds and acceleration in excess of 150g to a cumulative duration of 4.0 milliseconds. Recent confirmation of the appropriateness of these requirements is found in the 1980 study of the Japan Automobile Research Institute, Inc., "Human Head Tolerance to Sagittal Impact: Reliable Estimation Deduced from Experimental Head Injury Using Subhuman Primates and Human Cadaver Skulls," K. Ono, A. Kikuchi, M. Nakamura, H. Kobayashi, and N. Nakamura, Proceedings from the 24th Stapp Car Crash Conference, SAE 801303, 1980 (JARI study). The JARI study developed a human head impact tolerance threshold curve, which indicates that the threshold of human concussion is about 200g at 2.3 milliseconds. Standard 218's limitation of 200g at 2.0 milliseconds provides the necessary margin of safety. The agency's compliance testing shows that, in general, modern helmet technology has no problem meeting these requirements.

Although the impact attenuation test's acceleration levels were not proposed for change, the agency solicited comments on the issue. Both Javelin and Bell Helmets, Inc., (Bell) submitted comments and both recommended that the peak g be lowered (currently 400g)—Javelin recommending that it be lowered to 250g and Bell that it be lowered to 300g. Javelin stated that most brain injuries start below 400g and that there are no brain injuries at 250g. Neither Javelin nor Bell submitted data to support its position.

With regard to the dwell time requirements (limiting acceleration of 200g to 2.0 milliseconds and acceleration of 150g to 4.0 milliseconds), Bell stated that the original dwell times were established when the compliance test system was a swing-away test rig. Thus, when the standard changed to a drop test approach, the time duration increased on all of the helmets. Bell's contention is that this was due to the change in the system, and not because of any change in the helmets.

Bell tried to discount the agency's use of the dwell time requirements by hypothesizing that what NHTSA really is regulating is a change in velocity, since NHTSA establishes maximum g levels for certain periods of time and the product of acceleration and time duration is velocity. Using this premise, Bell contends that NHTSA would fail a change in velocity greater than 3.923 meters per second at 200g for 2 milliseconds duration or more, yet would allow a change in velocity of 7.8 meters per second at 199g for 4 milliseconds duration or less. Bell commented that the standard implies that "more is less," because NHTSA would say a change in velocity of 3.923 meters per second at 200g is life threatening, but a change in velocity of 7.8 meters per second at 199g is within human tolerance.

Bell misunderstands the role of change of velocity in relation to the dwell time requirements of FMVSS 218, and bases all of its calculations on a limited and erroneous assumption. Bell assumes that, since both acceleration and time are elements of the performance requirement, the agency is regulating change in velocity (maximum acceleration multiplied by time duration, in the case of rectangular g-t curves). In addition, Bell developed its "more is less" theory solely on the basis of calculating change of velocity from a single rectangular acceleration-time response curve.

Calculating change of velocity from a rectangular g-t curve can result in many different impacts generating the same change of velocity. For example, a change of velocity of 9.82 m/sec is the measure of a rectangular response curve of 500g-2t (t = milliseconds, which would represent an impact on a hard surface with a high acceleration level and short stopping time), as well as the measure of a rectangular response curve of 2g-500t (which would represent an impact on a soft surface, with low acceleration and long stopping time). While these two examples have the same change of velocity measure, clearly the 500g-2t response is highly injurious while the 2g-500t is not. The sameness in the change of velocity in these very different examples demonstrates that change of velocity alone is insufficient to determine injury.

As previously stated, the agency is not regulating change in velocity because it alone is not sufficient to relate impact and injury. Rather, researchers believe that peak acceleration and time duration at a certain level of acceleration are accurate determinatives of human brain injury potential. Limiting peak g and time duration for the acceleration-time response curve, although defining limits for the elements which also constitute change of velocity, is not limiting change in velocity. In summary, the agency believes the basic premise of Bell's comment is grounded in a misunderstanding of the role that change of velocity plays in applying time duration requirements to performance levels of motorcycle helmets. Further, Bell's reliance only on rectangular response curves is inappropriate.

In response to the other commenters recommending a lower maximum g level, the agency appreciates that there is difference of opinion in the helmet manufacturing industry. We encourage any commenter wishing that the agency consider a change in the requirement to submit biomechanical data in support of its position. To date, the commenters have not submitted data which supports or contradicts in any way the 1980 JARI study. The current requirements in FMVSS 218 are consistent with the JARI study. Accordingly, the agency believes that they are appropriate.

Retention Test-(a) Dynamic Testing (S5.3). The

agency asked whether the retention test should be changed to require dynamic testing to prevent the helmet from rotating on the head and perhaps coming off the head in an accident. Bell responded that they have done considerable research and development on this, and that retention testing should include a dynamic test to check roll-off as well as strap strength.

Retention Test-(b) Chin Guard Area. The agency asked if the standard should include procedures for the chin guard area or full facial coverage of the helmet. Bell answered affirmatively, stating that a test for face bars should be developed.

With respect to the retention test responses, for both the dynamic testing question and the chin guard area question, no substantive or quantitative data were submitted. The agency will consider changes with regard to the helmet's retention system, but only if it receives appropriate data. The agency requests data to be submitted as they become available.

Projections (S5.5). Although the agency did not propose any change to the prohibition against rigid interior projections, Marushin submitted a comment requesting that the agency define "rigid." Marushin stated that it is not realistic to prohibit *all* rigid projections inside the shell, because any fastening system for essential accessories would have some kind of inside projection. The agency will consider a clarifying amendment on rigid projections as an issue for possible future rulemaking.

Selection of Applicable Test Headform (New S6.1). The proposed rule contained a new S6.1, Selection of appropriate headform, specifying designated size ranges of helmets to be tested on the small, medium, and large test headforms. The premise of the proposal was that each helmet should be tested on the headform that correlated most closely with the heads of persons likely to purchase the helmet. The agency believed that the manufacturer's size designation was the best method for determining the likely size of those heads. The proposal called for a helmet with a manufacturer's designated helmet size or size range of 6 5/8 (European size 53) or smaller to be tested only on the small headform; a helmet with a manufacturer's designated helmet size or size range between 6 3/4 and 7 1/2 (between European size 54 and size 60) to be tested on the medium headform; and a helmet with a manufacturer's designated size or size range of 7 5/8 (European size 61) or larger to be tested on the large headform. Paragraph S6.1.2 further provided that any helmet having a designated size range that overlaps all or a portion of two or more of the three specified ranges must be tested on all headforms included within the helmet's size range.

Bell recommended that the upper end of the small headform size be changed from 6 5/8 to 6 3/4, because Bell's helmets sized at 6 3/4 cannot be placed on the

medium headform. The intention of the proposed changes is to ensure that all motorcycle helmets are subject to compliance testing. Accordingly, the final rule reflects Bell's requested change in sizing.

Marushin Kogyo Co. (Marushin) requested that the agency define the measuring method of each helmet size, including the contour to be measured and the measuring device. Marushin also requested that the metric unit of the helmet size be added to the standard. The agency declines to specify how a manufacturer should measure its helmets for sizing, because this reflects design considerations which are most appropriately determined by the manufacturers. Also, the designation method used in the proposed rule provides adequate size information, since it is adopted from long-established industry procedures. The American designation, for example, 6 3/4, indicates 6 3/4 inches, the diameter of an equivalent circle; the European equivalent in parentheses, for example 54, indicates 54 centimeters, the circumference of the equivalent circle. No change has been made in the final rule.

Bell opposed the requirement that a helmet be tested on more than one headform if its sizing extends beyond the limits of a single size range. As an alternative, Bell suggested that any helmet falling within the size ranges of two or more headforms be tested on the largest of those headforms, noting that approximately 5 percent of its helmets would have to be double tested under the proposed rule.

The agency has reviewed test results of the same helmet being tested on two different size headforms, and has found that the results are not consistent. Some smaller helmets tested better on larger test headforms and some larger helmets tested better on smaller test headforms. This is an indication to the agency that testing only on the larger headform as Bell suggests would not ensure that a given helmet also would pass the performance requirements when tested on a small headform. The agency therefore believes the multiple testing rule is needed to ensure that any helmet falling within the size range for any particular headform size meets the performance requirements when tested on that headform. No change has been made in the final rule.

Headform Test Line (New S6.2.3). Paragraph S6.2.3 describes how to determine the test line of a helmet and Figure 2 in FMVSS 218 graphically shows the test line on a headform. All strikes or impacts must be above the designated test line. The area above the test line represents the more vulnerable area of the skull and the required test area on a motorcycle helmet. In the proposed rule, the agency asked three questions related to the helmet test line:

1. Should the test line marking the limit of the test surface in Figure 2 of the Standard be lowered or should the test be revised in other ways to provide more protection in accidents for the lower part of the

back of the head or the front of the head in the forehead area, or to improve the performance of the helmet from the side?

2. What requirements would represent the optimal trade-off between helmet weight, visibility, hearing and other helmet design criteria?

3. Do current requirements represent a reasonable trade-off?

Bell was the only commenter to respond to these questions. While Bell stated that FMVSS 218 has proven to offer good protection within the existing trade-offs scheme, Bell did recommend that the test line be lowered in the back of the head area. Bell or any other manufacturer desiring that NHTSA consider revising the test line in a future rulemaking should submit support data.

Temperature Conditioning (New S6.4) The agency asked whether the low temperature conditioning requirements should be changed so that the interior surface of the helmet, or the headform, is at body temperature for the impact attenuation and penetration tests.

Bell stated that it believes the agency should consider the inner and outer temperatures of the test helmets. Florida Safety Products, Inc., (Florida) believes that any tests on a helmet subjected to low temperature conditions is unrelated to real life conditions, unless the helmet has a simulated human head in it. Florida has tested helmets conditioned to 10°F containing a bladder conditioned to 98°F to simulate a human head. Although it did not elaborate, Florida indicated that these test conditions produced a "startling difference in test results" from those for helmets tested under current FMVSS 218 procedures.

Florida also attached a U.S. Army Aeromedical Research Laboratory study on this subject, which concluded that the current FMVSS 218 requirements do not simulate potential, real world, cold climate conditions, particularly because the headform is deemed too cold, and therefore are inappropriate for the determination of cold temperature dynamic response of a helmet system. The study recommended that testing be done under conditions that simulate potential, real world conditions as closely as possible. Florida concluded its comments by recommending a change in the standard which would require that the test headform be conditioned to body temperature for the impact attenuation and penetration tests.

The agency acknowledges that temperature gradients exist, and that the temperature of the test headform (or other substance on which the helmet is placed) may affect the temperature of the helmet. However, what the agency lacks, and what the commenters did not submit, are any data indicating any link between differences in impact attenuation and penetration test results and changes in temperature. NHTSA requests any data, including specific test

results, which the agency may use to evaluate future rulemaking decisions.

Bell also commented on the procedure used to wet the motorcycle helmet for the water immersion conditioning requirement (new S6.4.1(d)), recommending that the wet test be a "spray" type test as opposed to the current soak test. Bell further stated that they have indications that some of the liners have been moved out of position because of excess water in the helmet. As with other "new" information received from commenters, the agency will consider this recommendation in the context of a possible future rulemaking and requests the submission of specific data.

Second Impact. The impact attenuation test (S7.1.2) states that each helmet is impacted with two successive, identical blows at each site, from a drop height of 72 inches onto the flat anvil and from a drop height of 54.5 inches onto the hemispherical anvil.

Javelin recommended that the agency change the impact attenuation test conditions. Their recommendation was that the agency eliminate the requirement for the second impact at each site and, in the alternative, specify 120J impact energy for the first (and only) impact on the flat anvil and 95J impact energy for the first (and only) impact on the hemispherical anvil (J = joules, a measure of energy).

Translating J's into drop heights, Javelin's recommendation for the medium test headform assembly would be approximately 97.2 inches, as opposed to FMVSS 218's drop height of 72 inches onto the flat anvil. The equivalent drop height for 95J is about 76 inches, as opposed to FMVSS 218's drop height of 54.5 inches onto the hemispherical anvil. If adopted, expressing the impact requirements in terms of energy units means that the drop heights would be dependent upon the mass of the test headform used and would be different for each size test headform.

Conversely, Javelin's recommendation would require that the same amount of energy be used for each size headform. However, Javelin did not provide any supporting data for their proposed test procedure change. The current FMVSS requires that the different size test headform and motorcycle helmet assembly be dropped from the same height, which results in different amounts of energy being imparted, since impact energy changes with mass, and the different headform assemblies have different amounts of mass. The agency adopted the single height requirement to simulate crash conditions. NHTSA believes that a consistent drop height more accurately simulates reality than a consistent measure of energy.

With regard to eliminating the second impact, the agency believes that current FMVSS 218 establishes minimum performance requirements. The purpose of requiring the second impact at each test site is to establish a minimum level of helmet residual impact absorbing capability. In real world accidents, a second

impact may occur quickly after the first, perhaps within one or two seconds and perhaps at a different place. While there is no existing test method for conducting second impacts within such a short time frame, it is known that the human head's tolerance is lowered when subjected to repeated blows.

While the agency's second impact test does not reproduce potential, multiple impacts in a single accident, it does establish that the material has sufficient ability to recover its protective capabilities in the particular location where it has been impacted. For these reasons, the agency believes that retaining a second impact test is important.

While various manufacturers have recommended that the agency eliminate the second impact requirement, no one has submitted data to demonstrate that the second impact is not appropriate or provided a rationale for eliminating the requirement. In fact, all other known standards which have been established by private standards organizations or by foreign countries require equal or higher impact levels than FMVSS 218 for both the first and second impacts. Absent contradictory data, the agency believes that it is appropriate to retain the standard's current requirements.

Test Conditions: Time Limitations for the Impact Attenuation Test and Penetration Test. The NPRM proposed that the impact attenuation test (new S7.1.3) and the penetration test (new S7.2.3) start at exactly two minutes following removal of the helmet from the conditioning environment and that the two successive impacts for each test site be completed within four minutes. If either time requirement is not met, the helmet must be returned to the conditioning environment and the test series begun again. Under the current standard, there is no minimum starting time but the impacts must be conducted within five minutes. The reduction in test time limits will reduce the temperature variations from test to test with the same helmet and will provide more repeatable test results.

The agency also requested comments from manufacturers and test laboratories about whether a helmet's performance during the retention test (chin strap) is also temperature sensitive.

The agency did not receive any comments on its proposed time limitation changes to the standard or on its request concerning the time sensitivity of the retention system test. The proposed rule provisions are adopted in the final rule without change.

Resonant Frequency of the Test Headform (New S7.1.5). The NPRM provided that a test headform may not exhibit resonant frequencies below 2,000 Hz (cycles/seconds) (new S7.1.5), lowered from the currently specified 3,000 Hz (old S7.1.4). The purpose of this requirement is to ensure that headform frequencies do not distort helmet response measurement. The fundamental helmet frequency is estimated to be

below 1,000 Hz and the tested resonant frequencies for the new small, medium, and large headforms exhibit frequencies well above 2,000 Hz. Setting a minimum resonant frequency of 2,000 Hz for the headform will eliminate any risk of interference with test results, while allowing some flexibility in the design and machining of headform interiors (for example, there can be variations in wall thickness).

Since the agency did not receive any comments on this provision, it adopts the requirement as proposed.

Use of the Monorail Drop Test Equipment (New S7.1.6). The agency specified in the proposed standard that it would use the monorail drop test equipment in the conduct of the impact attenuation test (new S7.1.6). The agency has been using the monorail drop test equipment, but it has not specified its use in the standard before. The agency uses the monorail drop test equipment because the impact point on the helmet can be fixed. The other frequently used system, the twin wire system, allows the headform assembly to rotate downward, making it hard to predict successive impact points. Added friction due to this downward rotation can cause speed variations, which in turn may produce response variations.

The agency received several comments on its use of the monorail drop test equipment. Javelin suggested that test equipment be optional to the manufacturer, contending that if the twin-wire equipment is adjusted, it can match the performance of the monorail drop test equipment. Bell, while not objecting to the monorail drop test equipment itself, questioned the agency's statement that the monorail drop test equipment is more consistent, contending that two NHTSA contract laboratories, Dayton T. Brown and Southwest Research, had different test results with the monorail drop test equipment. Finally, Marushin specifically requested that the twin-wire system be authorized, since it is Marushin's belief that the reliance on the monorail drop test equipment is premature and that the twin-wire testing system is the most common system in place throughout the world. As a practical matter, Marushin does not know of a reliable source from which to get the monorail drop test equipment.

The agency does not consider the different test results experienced by Dayton T. Brown and Southwest Research as being comparable. Certain test differences were due to differences in instrument control practice. However, according to a worst case analysis report provided by each laboratory, variance due to instrumentation differences alone is less than five percent, well within the tolerance range. As mentioned earlier, NHTSA's Laboratory Procedure for Motorcycle Helmet Testing (TP-218-02, October 1984) includes procedures for the calibration of measurement and test equipment as well as provisions to record all test data. The procedures used in this manual are in accord with established industry prac-

tice and test laboratories should ensure that these procedures are used in the conduct of all compliance testing.

The testing done by these laboratories was not designed to be a comparison of like test procedures and like helmets, and should not be viewed as such. The testing labs arrived at different results for some tests, and like results for other tests. Tested helmets must meet performance requirements for any impact within the prescribed test area. Further, a manufacturer must certify that *all* areas within the test area meet the performance level. When laboratories test helmets, however, there could be a wide difference in the actual location on the helmet which is impacted. These different orientations of the helmets may result in different test results. The results should not be so disparate, however, that in one lab's test a particular helmet model passes and in another lab's test the same helmet model fails. In the 3,008 drops of the different laboratories reviewed by the agency, only three indicated different pass/fail results. (One of these was a failure due to the helmet liner splitting, not a failure based on actual helmet performance.) The agency considers these few disparities inconsequential.

The agency does not intend to impose an additional burden by identifying the monorail drop test equipment as the method by which it tests compliance. As stated in previous rulemakings and interpretations, a manufacturer is not required to follow specifically the test procedures identified in a particular standard. The manufacturer must, however, ascertain that the product will conform to the standard's requirements when it is tested by the specified method. In assuring itself that its product, if tested, will conform to the standard's requirements, the manufacturer must exercise due care and utilize sound engineering judgment. As a practical matter, the manufacturer may continue to use the twin wire system, so long as the manufacturer uses "due care" to ensure that performance is comparable to those tested with the monorail drop test equipment. "Due care" is determined on a case-by-case basis and whether a manufacturer's action constitutes "due care" will depend, in part, upon the availability of test equipment, the limitations of available technology, and, above all, the diligence evidenced by the manufacturer.

Information available to the agency concerning the one known manufacturer and seller of the monorail drop test equipment is filed in the Standard 218 Rule-making Docket, including an estimated cost of \$17,000 for the testing equipment and instrumentation.

Penetration Test (S7.2). The agency asked whether the geometric configuration of the pointed penetration test striker should be modified to resemble the narrow surface in the 1985 Snell standard. The Snell standard includes a penetration test which involves a non-pointed object designed to represent a common roadway obstruction.

Both Bell and Marushin indicated that they preferred the non-pointed object used in the Snell standard.

Javelin recommended that the penetration test be modified to coincide with a recommendation by Professor H.H. Hurt in his 1981 study ("Motorcycle Accident Cause Factors and Identification of Countermeasures," H.H. Hurt, J.V. Ouellet, D.R. Thom, Traffic Safety Center, University of Southern California, DOT HS-805 862, January 1981): "...[I]n actual accident conditions, a 90° metal edge was the much more common threat than the pointed surface of the FMVSS 218 standard penetrator The conical point penetrator of the current test should be replaced with a hardened steel edge approximately 1/8 inch thick and 1 inch long, in order to be representative of accident impact." (at page 325).

Javelin's comment indicated that Javelin believes that a thermoplastic helmet with thick and less dense liner and a matching shell of marginal penetration performance (according to current FMVSS 218) is a safer helmet than one with a denser liner designed to resist penetration by a pointed steel marker. The agency does not agree, since the biomechanical data available to NHTSA indicate that too thick a liner results in sustained g levels beyond the 2.0 and 4.0 milliseconds allowed by the standard. These responses would result in injuries.

Further, while the Hurt report does recommend that NHTSA adopt the Snell non-pointed object for its impact attenuation test, its general recommendations state that FMVSS 218 "... provides a high level of protection for the typical traffic accident, and appears to need only minor modifications." (Hurt Report, at p. 422) All of the Hurt recommendations, along with the specific comments of Bell, Javelin and Marushin will be evaluated in the context of a possible future rulemaking. The agency requests specific data in support of this change.

Metric Equivalents. The proposed rule contained metric equivalents for all inch and pound measurements, except for the headform dimensions in the Appendix. The metric equivalents in centimeters for the inch dimensions in Table 2 and Figures 6, 7, and 8 can be obtained by multiplying 2.54 to all dimensions. There were no comments on this issue, and the final rule includes metric equivalents as appropriate.

Other standards. The proposed rule asked if NHTSA should consider adopting additional requirements which are contained in other motor vehicle safety standards, for example, the Snell Memorial Foundation Standard, the American National Standards Institute (ANSI) Standard or European standards, such as the ECE standard.

Bell responded, in the affirmative. In considering the adoption of other standards' requirements in future rulemaking, the agency will need data related to performance of motorcycle helmets. The agency re-

quests that anyone having this data submit it to NHTSA for consideration.

Other changes to final rule. In addition to the changes in response to comment, this final rule also contains certain technical, nonsubstantive changes, as described below:

General. The final rule places all of the tables and figures of the standard into one Appendix and the old Appendix is removed. This regrouping has required changes to several of the cross-references in the Standard. For example, in the definition of "Test headform," the previous reference to the old Appendix is removed and replaced with a reference to Table 2 and Figures 5 through 8.

S3 Application. The final rule adds the word "all" before the word "helmets," to clarify the Standard now applies to all helmets offered for sale in the United States, regardless of size.

S4 Definitions. The changes include placing the definitions in alphabetical order and making a cross-reference amendment of the kind described above under General changes.

S5.6 Labeling. This section is renumbered to provide consistency in the numbering scheme and to provide for numbering for the first time to undesignated paragraphs. For example, old S5.6.1(1) is now S5.6.1(a). Previously undesignated paragraphs containing instructions to the purchasers of helmets have become numbered paragraphs (1) through (4) under S5.6.1(f), Instructions to the purchasers.

Helmet position. In S6.3.1, as well as in other places where it appears, the term "prior to" has been replaced by the word "before."

S6.4 Conditioning. An additional numerical breakdown has been provided for these provisions, so that a newly designated S6.4.1 contains the conditioning requirements before testing and S6.4.2 contains conditioning requirements during testing.

S7. Test conditions.

In S7.1.4, one paragraph has been broken down into two designated paragraphs: S7.1.4(a) contains the impact attenuation free fall requirements onto the hemispherical anvil and S7.1.4(b) contains the impact attenuation free fall requirements onto the flat anvil.

In S7.1.9, the Standard requires that the acceleration data channel comply with SAE Recommended Practice J211 requirements for channel class 1,000. The proposed rule inadvertently omitted the date of the Standard. The agency intends the incorporation by reference of SAE Recommended Practice J211, Instrumentation for Impact Tests, to be to the June 1980 edition, which is substantively the same as the previously incorporated by reference 1970 edition. Accordingly, S7.1.9 has been amended to include a reference to the 1980 edition.

Costs and Benefits of FMVSS 218

In an attempt to determine the costs associated with complying with FMVSS 218, the agency posed the following questions in the NPRM. When there was a response, it immediately follows the question.

1.(a) How many helmet manufacturers have, or do not have, their own testing equipment?

Bell and Marushin indicated that they have their own testing equipment. Marushin's is twin-wire equipment.

(b) Of the manufacturers with equipment, what percentage of helmet testing is done by outside laboratories?

Marushin stated that they have an outside laboratory test helmets for calibration and comparison purposes once a year.

2.(a) How many test headforms would helmet manufacturers, who conduct their own testing, need to purchase to meet the requirements of the rule?

Bell indicated that even though they have had a complete set of headforms for several years, they have ordered a new set to ensure that they are using the same headforms as the NHTSA compliance test contractors. Marushin indicated that they already have a set, but that they will need to perform precise dimensional checks of the headforms against the requirements of the Standard to ensure continued compliance.

(b) How many manufacturers would do their own machining of the headform?

Marushin indicated that they would use a subcontractor and Bell stated their doubt that any manufacturer would do its own, even though Bell has done it in the past.

3. What are the testing costs for helmet manufacturers conducting their own testing?

Marushin estimated about \$200 a helmet, while Bell stated that it was difficult to compute costs for in-house testing, since they have two full-time technicians who conduct quality control, new product research and development and competitors' model testing on a daily basis.

4. What is the cost of redesigning a motorcycle helmet shell and its liner?

Marushin estimates \$50,000 and Bell indicated that the cost of redesigning a shell and liner system for a helmet varies by thousands of dollars depending on the changes made. Generally, it takes six months to a year to develop a new model and complete on-road technical testing.

5. What percent of current helmet production can be placed on the size C headform (now the medium headform)?

Marushin estimated roughly 90 percent and Bell estimated 99 percent.

6. What percent of helmet production would be tested on each of the small, medium and large headforms?

Small headform: Marushin, 10 percent; Bell, 1 percent (as the Standard is amended in this final rule.).

Medium headform: Marushin, 70 percent; Bell, 85 percent.

Large headform: Marushin, 20 percent; Bell, 14 percent.

7. What percent of helmets would need to be tested on more than one size headform?

Bell: 5 percent. (See previous discussion about required multiple testing.)

8. Is there any data comparing effectiveness of complying versus non-complying helmets?

Marushin replied that they had no data. Bell stated that "there is considerable data to indicate that helmets passing a more rigid standard in some ways, but that do not pass the DOT standard have saved many lives without any negative side effects." Bell indicated that it was referring to the time duration requirement, and that the maximum g rule is much more important than the time duration requirement, and helmets that can pass a more stringent (lower) maximum g level than FMVSS 218 may not comply with FMVSS 218 because it cannot meet the time duration requirement. The agency assumes that Bell is speaking of high-performance helmets that are designed for off-road uses, such as automobile racing, or possibly standards in existence in other countries.

Also in an attempt to estimate the costs associated with complying with FMVSS 218, the agency contracted with HH Aerospace Design Company to perform a cost/benefit study of the effects of using several headform sizes in testing motorcycle helmets. ("Cost/Benefit Study of Effects of Using Several Headform Sizes in Testing Motorcycle Helmets Under Federal Motor Vehicle Safety Standard 218," Contract No. DTNH 22-80-C-0736, Final Report, September 1980.) This report, the data submitted in response to the questions in the proposed rule, and data requested orally from companies and noted in the rulemaking docket (Docket No. 85-11) were sources used by the agency in developing a thorough analysis of this rulemaking. This analysis is part of the final regulatory evaluation prepared by the agency and can be found in the rulemaking docket of this rule (See, Final Regulatory Evaluation: Amendment Extending FMVSS 218, Motorcycle Helmets, to All Helmet Sizes, NHTSA, Plans and Policy, Office of Regulatory Analysis, July 1987.) A summary of the findings follows.

The agency has determined that there are some costs associated with this rule, since small motorcycle helmets (and any other size helmet that could not be "placed on" the size C headform) now will have to be certified as complying with FMVSS 218. The possible new costs will be in the areas of capital costs (purchase three or more new headforms, if the manufacturer does its own testing), design costs (possible redesign of liner for the small helmets, and

possibly, though considered unlikely, redesign of a motorcycle shell), testing costs (10 percent of helmet production, *i.e.*, small helmets, which could not be placed on the size C headform and previously were not subject to FMVSS 218 now will have to be tested and certified. In addition, some helmets will have to be tested on multiple test headforms if their sizing encompasses more than one headform size), and labeling costs (10 percent of helmet production will have to be labeled for the first time).

Thus, a manufacturer that intends to test its own motorcycle helmets for compliance with FMVSS 218 may have to purchase additional headforms, at a maximum estimated cost of about \$4,670. In addition, a manufacturer who performs in-house compliance tests may wish to purchase the monorail drop test equipment, at an estimated cost of \$17,000 (including instrumentation). Other one-time costs for manufacturers, whether or not they do in-house compliance testing, may include the redesign of noncomplying helmets. The agency anticipates that any necessary redesign will focus on liner redesign, at an estimated cost to the industry as a whole of approximately \$60,000-\$72,000. Although considered unlikely, there may be an instance of a manufacturer having to redesign a helmet shell. These potential costs could vary widely, with a possible cost of between \$12,000 and \$36,000 per shell for a redesign of a fiberglass shell and a possible cost of between \$150,000 and \$182,000 per shell for a redesign of a polycarbonate shell.

The other costs associated with complying with amended FMVSS 218 will be recurring costs—affecting the cost of production. Certifying the additional 10 percent of the helmets now subject to the standard will cost about \$.05 per helmet; multiple testing will add approximately \$.03 per helmet; and the additional labeling costs will add about \$.01 per helmet.

Costs to the Consumer. The accumulated estimate of these increases is estimated to be not more than \$.10 per helmet. Since helmets can range in price from \$33 to \$300, the agency considers this increase inconsequential.

Benefits. The agency considers there to be clear benefits to this standard. The primary benefit—the extension of test requirements to all helmet sizes—is the principal reason for undertaking the rulemaking. FMVSS 218 will now apply to all helmets, and each helmet manufacturer will have to certify each helmet model is complying with the Standard before the helmet is offered for sale in the United States. In addition, to the extent there was consumer concern about the efficacy of any helmet on the market due to a lack of universal certification, applicability of the Standard to all helmets will eliminate this concern.

Consideration of Future Action

In the NPRM, the agency asked a series of questions concerning motorcycle helmet issues that may be con-

sidered in future rulemaking proceedings. These questions elicited information on potential new areas of motorcycle helmet performance, as well as data concerning performance requirements contained in other motorcycle helmet standards, such as in the American National Standards Institute and ECE standards. The solicited information covered such issues as a different configuration for the pointed penetration test striker, enlargement of the test area of the helmet, inclusion of a chin guard performance test for full facial coverage helmets, as well as test procedure changes for the temperature conditioning requirements and dynamic testing for the retention test.

To the extent the agency received responses to these questions, they have been discussed previously, in the context of the specific issues of this rulemaking. However, the agency would like to reaffirm its interest in receiving specific data in these areas for possible future rulemaking actions. Commenters with information on these issues should refer back to the proposed rule for the specific questions on which the agency is seeking information. (See the September 27, 1985, issue of the *Federal Register*, at page 39147.) To be helpful to the agency in considering each topic, submissions must be specific, contain actual data on which the conclusions are based, and lay out test procedure specifications. If any submission is based on assumptions, please describe and justify the basis for each assumption.

Semiannual Agenda. This document appears as item number 1939 in the Department's Semiannual Regulatory Agenda, published in the *Federal Register* on April 27, 1987 (52 FR 14548, 14653; RIN #2127-AA40).

In consideration of the foregoing, Standard No. 218 is amended as follows:

S3. is revised to read as follows:

S3. *Application.* This standard applies to all helmets designed for use by motorcyclists and other motor vehicle users.

(3) S4. is amended by placing all existing definitions in alphabetical order and by revising the definitions for "Reference headform," "Reference plane," and "Test headform" to read as follows:

S4. *Definitions.*

* * * * *

"Reference headform" means a measuring device contoured to the dimensions of one of the three headforms described in Table 2 and Figures 5 through 8 with surface markings indicating the locations of the basic, mid-sagittal, and reference planes, and the centers of the external ear openings.

"Reference plane" means a plane above and parallel to the basic plane on a reference headform or test headform (Figure 2) at the distance indicated in Table 2.

* * * * *

"Test headform" means a test device contoured to the dimensions of one of the three headforms de-

scribed in Table 2 and Figures 5 through 8 with surface markings indicating the locations of the basic, mid-sagittal, and reference planes.

* * * * *

(4) S5. is revised to read as follows:

S5. *Requirements.* Each helmet shall meet the requirements of S5.1, S5.2, and S5.3 when subjected to any conditioning procedure specified in S6.4, and tested in accordance with S7.1, S7.2, and S7.3.

(5) Paragraph S5.3.1(b) is revised to read as follows:

(b) The adjustable portion of the retention system test device shall not move more than 1 inch (2.5 cm) measured between preliminary and test load positions.

(6) S5.4 is revised to read as follows:

S5.4 *Configuration.* Each helmet shall have a protective surface of continuous contour at all points on or above the test line described in S6.2.3. The helmet shall provide peripheral vision clearance of at least 105° to each side of the mid-sagittal plane, when the helmet is adjusted as specified in S6.3. The vertex of these angles, shown in Figure 3, shall be at the point on the anterior surface of the reference headform at the intersection of the mid-sagittal and basic planes. The brow opening of the helmet shall be at least 1 inch (2.5 cm) above all points in the basic plane that are within the angles of peripheral vision (see Figure 3).

(7) S5.5 is revised to read as follows:

S5.5 *Projections.* A helmet shall not have any rigid projections inside its shell. Rigid projections outside any helmet's shell shall be limited to those required for operation of essential accessories, and shall not protrude more than 0.20 inch (5 mm).

(8) S5.6 is revised to read as follows:

S5.6 *Labeling.*

S5.6.1 Each helmet shall be labeled permanently and legibly, in a manner such that the label(s) can be read easily without removing padding or any other permanent part, with the following:

(a) Manufacturer's name or identification.

(b) Precise model designation.

(c) Size.

(d) Month and year of manufacture. This may be spelled out (for example, June 1988), or expressed in numerals (for example, 6/88).

(e) The symbol DOT, constituting the manufacturer's certification that the helmet conforms to the applicable Federal motor vehicle safety standards. This symbol shall appear on the outer surface, in a color that contrasts with the background, in letters at least $\frac{3}{8}$ inch (1 cm) high, centered laterally with the horizontal centerline of the symbol located a minimum of $1\frac{1}{8}$ inches (2.9 cm) and a maximum of $1\frac{3}{8}$ inches (3.5 cm) from the bottom edge of the posterior portion of the helmet.

(f) Instructions to the purchaser as follows:

(1) "Shell and liner constructed of (identify type(s) of materials)."

(2) "Helmet can be seriously damaged by some common substances without damage being visible to the user. Apply only the following: (Recommended cleaning agents, paints, adhesives, etc., as appropriate)."

(3) "Make no modifications. Fasten helmet securely. If helmet experiences a severe blow, return it to the manufacturer for inspection, or destroy it and replace it."

(4) Any additional relevant safety information should be supplied at the time of purchase by means of an attached tag, brochure, or other suitable means.

(9) S6. is revised to read as follows:

S6. *Preliminary test procedures.* Before subjecting a helmet to the testing sequence specified in S7., prepare it according to the procedures in S6.1, S6.2, and S6.3.

(10) A new S6.1 is added to read as follows:

S6.1 *Selection of appropriate headform.*

S6.1.1 A helmet with a manufacturer's designated discrete size or size range which does not exceed 6¾ (European size: 54) is tested on the small headform. A helmet with a manufacturer's designated discrete size or size range which exceeds 6¾, but does not exceed 7½ (European size: 60) is tested on the medium headform. A helmet with a manufacturer's designated discrete size or size range which exceeds 7½ is tested on the large headform.

S6.1.2 A helmet with a manufacturer's designated size range which includes sizes falling into two or all three size ranges described in S6.1.1 is tested on each headform specified for each size range.

(11) Old S6.1 is redesignated as S6.2 and is revised to read as follows:

S6.2 *Reference marking.*

S6.2.1 Use a reference headform that is firmly seated with the basic and reference planes horizontal. Place the complete helmet to be tested on the appropriate reference headform, as specified in S6.1.1 and S6.1.2.

S6.2.2 Apply a 10-pound (4.5 kg) static vertical load through the helmet's apex. Center the helmet laterally and seat it firmly on the reference headform according to its helmet positioning index.

S6.2.3 Maintaining the load and position described in S6.2.2, draw a line (hereinafter referred to as "test line") on the outer surface of the helmet coinciding with portions of the intersection of that surface with the following planes, as shown in Figure 2:

(a) A plane 1 inch (2.5 cm) above and parallel to the reference plane in the anterior portion of the reference headform;

(b) A vertical transverse plane 2.5 inches (6.4 cm) behind the point on the anterior surface of the reference headform at the intersection of the mid-sagittal and reference planes;

(c) The reference plane of the reference headform;

(d) A vertical transverse plane 2.5 inches (6.4 cm) behind the center of the external ear opening in a side view; and

(e) A plane 1 inch (2.5 cm) below and parallel to the reference plane in the posterior portion of the reference headform.

(12) Old S6.2 is redesignated as S6.3 and is revised as set forth below:

S6.3 *Helmet positioning.*

S6.3.1 Before each test, fix the helmet on a test headform in the position that conforms to its helmet positioning index. Secure the helmet so that it does not shift position before impact or before application of force during testing.

S6.3.2 In testing as specified in S7.1 and S7.2, place the retention system in a position such that it does not interfere with free fall, impact, or penetration.

(13) Old S6.3 is redesignated as 6.4 and is revised to read as follows:

S6.4 *Conditioning.*

S6.4.1 Immediately before conducting the testing sequence specified in S7, condition each test helmet in accordance with any one of the following procedures:

(a) *Ambient conditions.* Expose to a temperature of 70°F (21°C) and a relative humidity of 50 percent for 12 hours.

(b) *Low temperature.* Expose to a temperature of 14°F (-10°C) for 12 hours.

(c) *High temperature.* Expose to a temperature of 122°F (50°C) for 12 hours.

(d) *Water immersion.* Immerse in water at a temperature of 77°F (25°C) for 12 hours.

S6.4.2 If during testing, as specified in S7.1.3 and S7.2.3, a helmet is returned to the conditioning environment before the time out of that environment exceeds 4 minutes, the helmet is kept in the environment for a minimum of 3 minutes before resumption of testing with that helmet. If the time out of the environment exceeds 4 minutes, the helmet is returned to the environment for a minimum of 3 minutes for each minute or portion of a minute that the helmet remained out of the environment in excess of 4 minutes or for a maximum of 12 hours, whichever is less, before the resumption of testing with that helmet.

(14) S7.1 is revised to read as follows:

S7.1 *Impact attenuation test.*

S7.1.1 Impact attenuation is measured by determining acceleration imparted to an instrumented test headform on which a complete helmet is mounted as specified in S6.3, when it is dropped in guided free fall upon a fixed hemispherical anvil and a fixed flat steel anvil.

S7.1.2 Each helmet is impacted at four sites with two successive identical impacts at each site. Two of these sites are impacted upon a flat steel anvil and two upon a hemispherical steel anvil as specified in S7.1.10 and S7.1.11. The impact sites are at any point on the area above the test line described in paragraph S6.2.3, and separated by a distance not less than one-

sixth of the maximum circumference of the helmet in the test area.

S7.1.3 Impact testing at each of the four sites, as specified in S7.1.2, shall start at 2 minutes, and be completed by 4 minutes, after removal of the helmet from the conditioning environment.

S7.1.4 (a) The guided free fall drop height for the helmet and test headform combination onto the hemispherical anvil shall be such that the minimum impact speed is 17.1 feet/second (5.2 m/sec). The minimum drop height is 54.5 inches (138.4 cm). The drop height is adjusted upward from the minimum to the extent necessary to compensate for friction losses.

(b) The guided free fall drop height for the helmet and test headform combination onto the flat anvil shall be such that the minimum impact speed is 19.7 ft./sec (6.0 m/sec). The minimum drop height is 72 inches (182.9 cm). The drop height is adjusted upward from the minimum to the extent necessary to compensate for friction losses.

S7.1.5 Test headforms for impact attenuation testing are constructed of magnesium alloy (K-1A), and exhibit no resonant frequencies below 2,000 Hz.

S7.1.6 The monorail drop test system is used for impact attenuation testing.

S7.1.7 The weight of the drop assembly, as specified in Table 1, is the combined weight of the test headform and the supporting assembly for the drop test. The weight of the supporting assembly is not less than 2.0 lbs. and not more than 2.4 lbs. (0.9 to 1.1 kg). The supporting assembly weight for the monorail system is the drop assembly weight minus the combined weight of the test headform, the headform's clamp down ring, and its tie down screws.

S7.1.8 The center of gravity of the test headform is located at the center of the mounting ball on the supporting assembly and lies within a cone with its axis vertical and forming a 10° included angle with the vertex at the point of impact. The center of gravity of the drop assembly lies within the rectangular volume bounded by $x = -0.25$ inch (-0.64 cm), $x = 0.85$ inch (2.16 cm), $y = 0.25$ inch (0.64 cm), and $y = -0.25$ inch (-0.64 cm) with the origin located at the center of gravity of the test headform. The rectangular volume has no boundary along the z-axis. The x-y-z axes are mutually perpendicular and have positive or negative designations in accordance with the right-hand rule (See Figure 5). The origin of the coordinate axes also is located at the center of the mounting ball on the supporting assembly (See Figures 6, 7, and 8). The x-y-z axes of the test headform assembly on a monorail drop test equipment are oriented as follows: From the origin, the x-axis is horizontal with its positive direction going toward and passing through the vertical centerline of the monorail. The positive z-axis is downward. The y-axis also is horizontal and its direction can be decided by the z- and x-axes, using the right-hand rule.

S7.1.9 The acceleration transducer is mounted at the center of gravity of the test headform with the sensitive axis aligned to within 5° of vertical when the test headform assembly is in the impact position. The acceleration data channel complies with SAE Recommended Practice J211 JUN 80, Instrumentation for Impact Tests, requirements for channel class 1,000.

S7.1.10 The flat anvil is constructed of steel with a 5-inch (12.7 cm) minimum diameter impact face, and the hemispherical anvil is constructed of steel with a 1.9 inch (4.8 cm) radius impact face.

S7.1.11 The rigid mount for both of the anvils consists of a solid mass of at least 300 pounds (136.1 kg), the outer surface of which consists of a steel plate with minimum thickness of 1 inch (2.5 cm) and minimum surface area of 1 ft² (929 cm²).

S7.1.12 The drop system restricts side movement during the impact attenuation test so that the sum of the areas bounded by the acceleration-time response curves for both the x- and y-axes (horizontal axes) is less than five percent of the area bounded by the acceleration-time response curve for the vertical axis.

(15) S7.2 is revised as set forth below:

S7.2 Penetration test.

S7.2.1 The penetration test is conducted by dropping the penetration test striker in guided free fall, with its axis aligned vertically, onto the outer surface of the complete helmet, when mounted as specified in S6.3, at any point above the test line, described in S6.2.3, except on a fastener or other rigid projection.

S7.2.2 Two penetration blows are applied at least 3 inches (7.6 cm) apart, and at least 3 inches (7.6 cm) from the centers of any impacts applied during the impact attenuation test.

S7.2.3 The application of the 2 penetration blows, specified in S7.2.2, starts at 2 minutes and is completed by 4 minutes, after removal of the helmet from the conditioning environment.

S7.2.4 The height of the guided free fall is 118.1 inches (3 m), as measured from the striker point to the impact point on the outer surface of the test helmet.

S7.2.5 The contactable surface of the penetration test headform is constructed of a metal or metallic alloy having a Brinell hardness number no greater than 55, which will permit ready detection should contact by the striker occur. The surface is refinished if necessary before each penetration test blow to permit detection of contact by the striker.

S7.2.6 The weight of the penetration striker is 6 pounds, 10 ounces (3 kg).

S7.2.7 The point of the striker has an included angle of 60°, a cone height of 1.5 inches (3.8 cm), a tip radius of 0.02 inch (standard 0.5 millimeter radius) and a minimum hardness of 60 Rockwell, C-scale.

S7.2.8 The rigid mount for the penetration test headform is as described in S7.1.11.

(16) S7.3 is revised to read as follows:

S7.3 Retention system test.

S7.3.1 The retention system test is conducted by applying a static tensile load to the retention assembly of a complete helmet, which is mounted, as described in S6.3, on a stationary test headform as shown in Figure 4, and by measuring the movement of the adjustable portion of the retention system test device under tension.

S7.3.2 The retention system test device consists of both an adjustable loading mechanism by which a static tensile load is applied to the helmet retention assembly and a means for holding the test headform and helmet stationary. The retention assembly is fastened around two freely moving rollers, both of which have a 0.5 inch (1.3 cm) diameter and a 3-inch (7.6 cm) center-to-center separation, and which are mounted on the adjustable portion of the tensile loading device (Figure 4). The helmet is fixed on the test headform as necessary to ensure that it does not move during the application of the test loads to the retention assembly.

S7.3.3 A 50-pound (22.7 kg) preliminary test load is applied to the retention assembly, normal to the basic plane of the test headform and symmetrical with respect to the center of the retention assembly for 30 seconds, and the maximum distance from the extremity of adjustable portion of the retention system test device to the apex of the helmet is measured.

S7.3.4 An additional 250-pound (113.4 kg) test load is applied to the retention assembly, in the same manner and at the same location as described in S7.3.3, for 120 seconds, and the maximum distance from the extremity of adjustable portion of the retention system test device to the apex of the helmet is measured.

(17) The old Appendix to §571.218 is removed, existing Figures 1, 2, 3, and 4 and Table 1 of Standard 218 are moved so that they are contained within a new Appendix to §571.218, and Figure 2 and Table 1 are revised, and new Figures 5, 6, 7, 8 and Table 2 are added as set forth below:

Table 1.—Weights for Impact Attenuation Test Drop Assembly

Test headform size	Weight ¹ —lb (kg)
Small	7.8 lb (3.5 kg)
Medium	11.0 lb (5.0 kg)
Large	13.4 lb (6.1 kg)

¹Combined weight of instrumented test headform and supporting and assembly for drop test.

Issued on March 31, 1988.

Diane K. Steed
Administrator

53 F.R. 11280
April 6, 1988

Appendix

Table 1.

Weights for Impact Attenuation Test Drop Assembly

Test Headform Size	Weight ¹ — 1 lb(kg)
Small	7.8 (3.5 kg)
Medium	11.0 (5.0 kg)
Large	13.4 (6.1 kg)

¹Combined weight of instrumented test headform and supporting assembly for drop test.

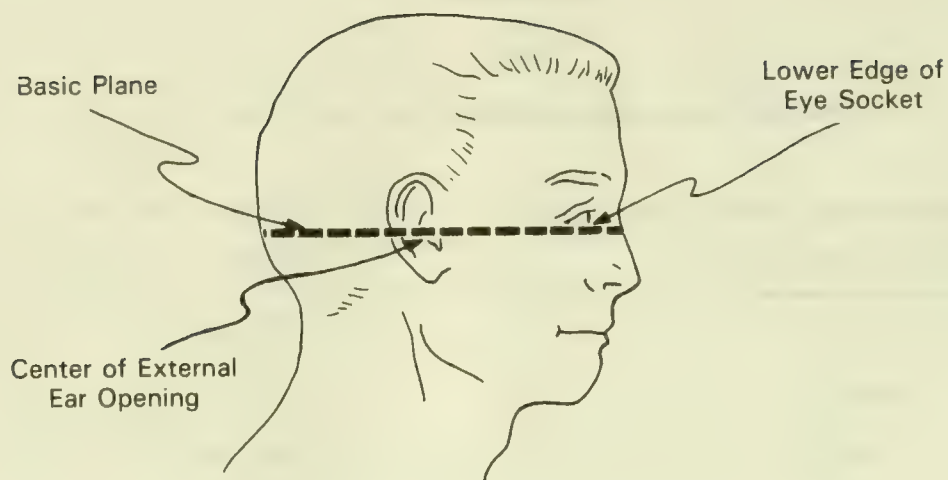
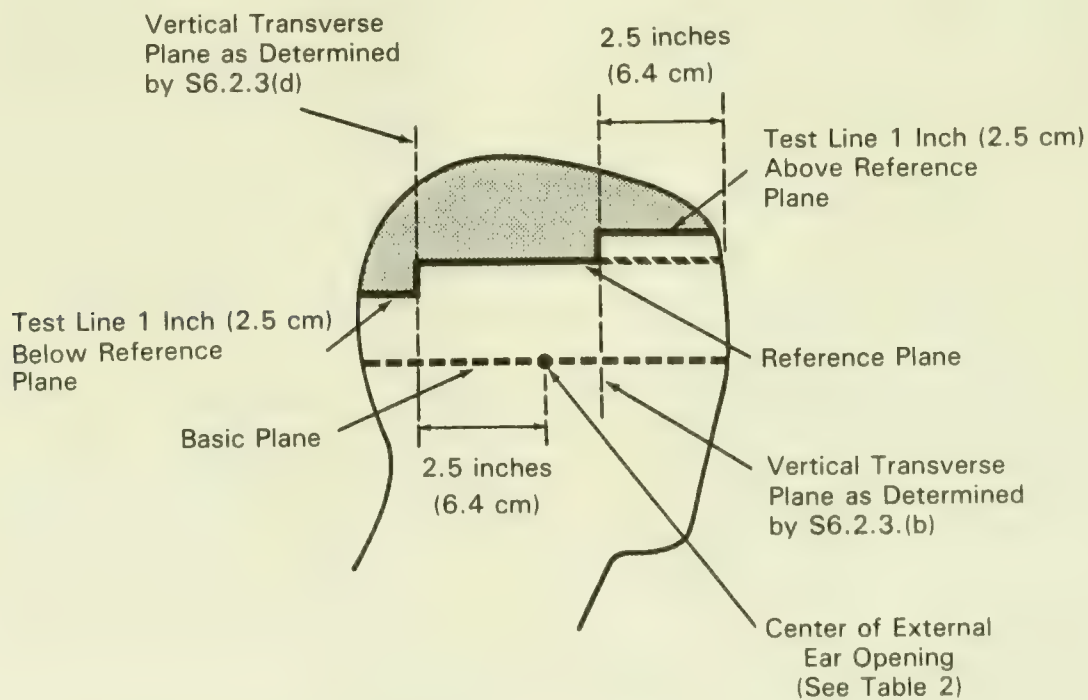


Figure 1.



Note: Solid lines would correspond to the test line on a test helmet.

 Test Surface

Figure 2.

Section Through the Basic Plane

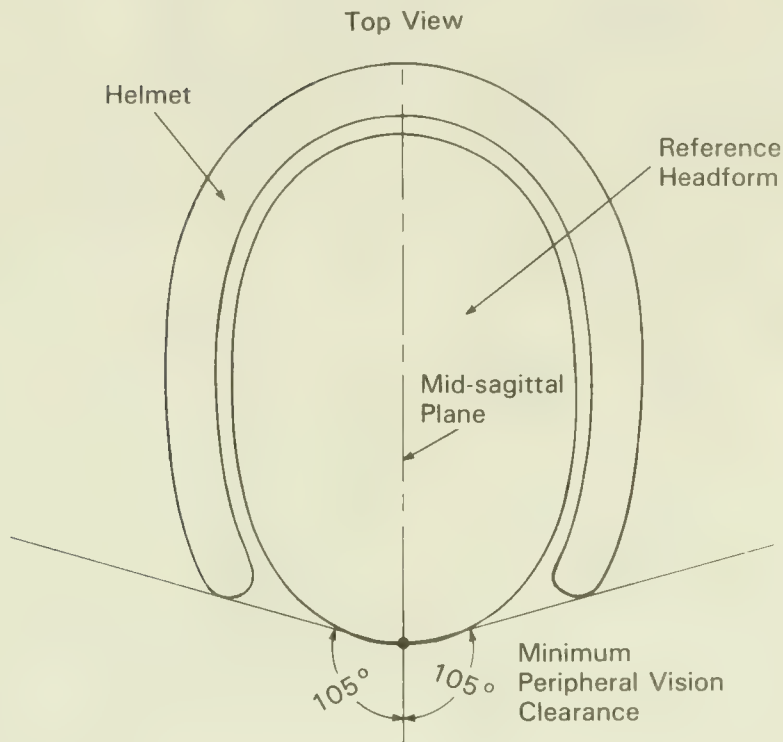


Figure 3.

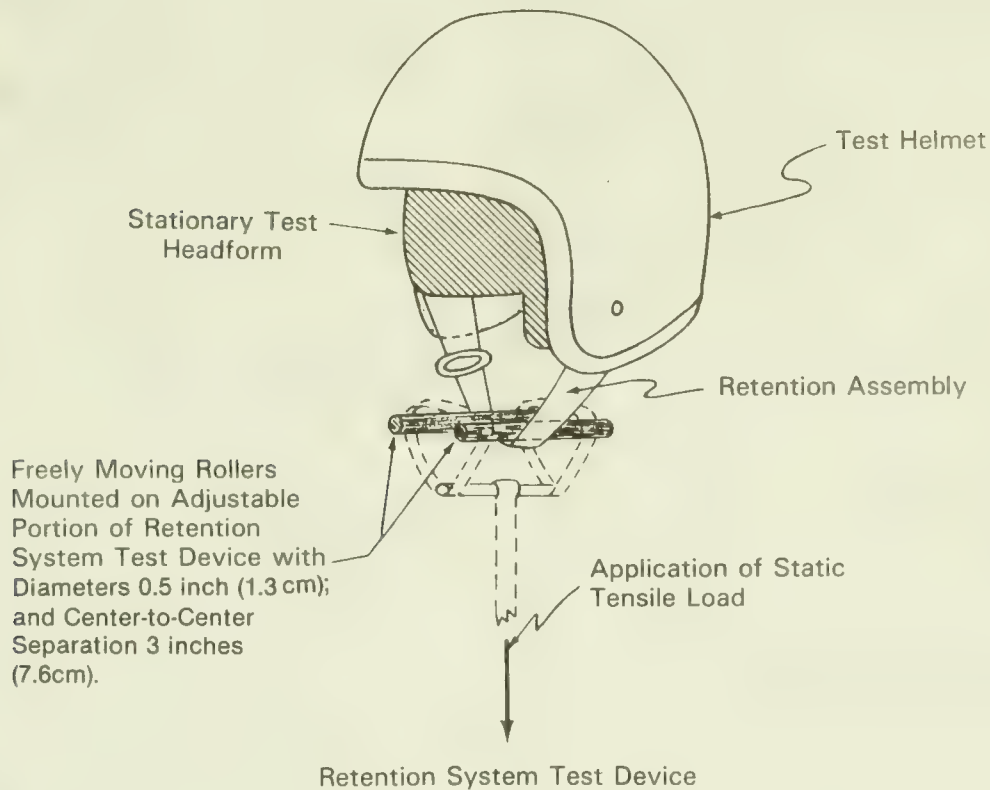


Figure 4.

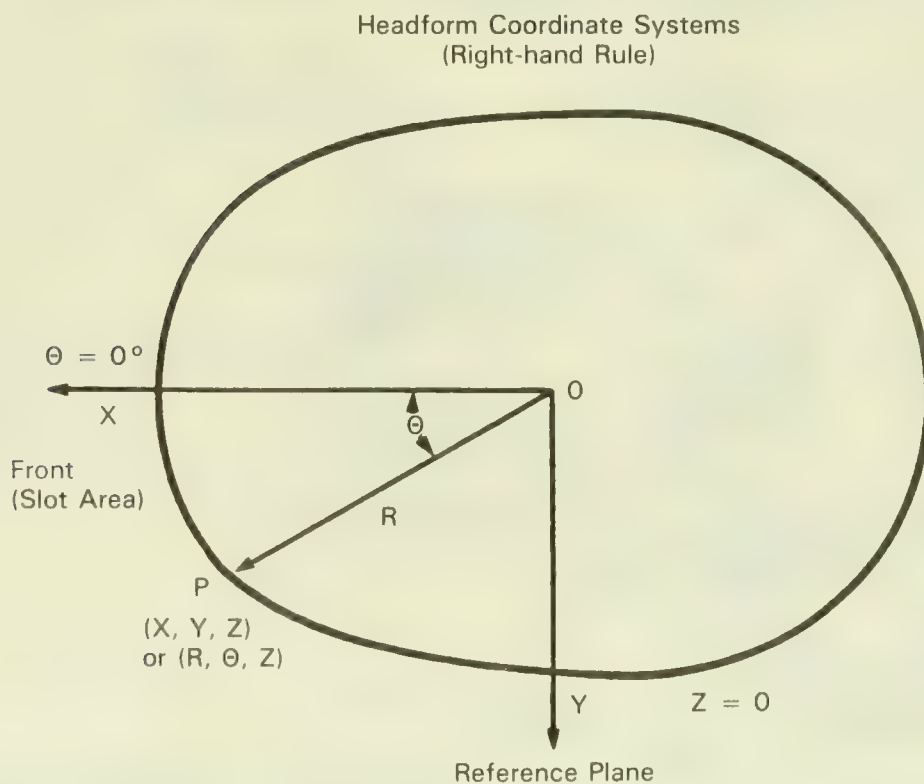
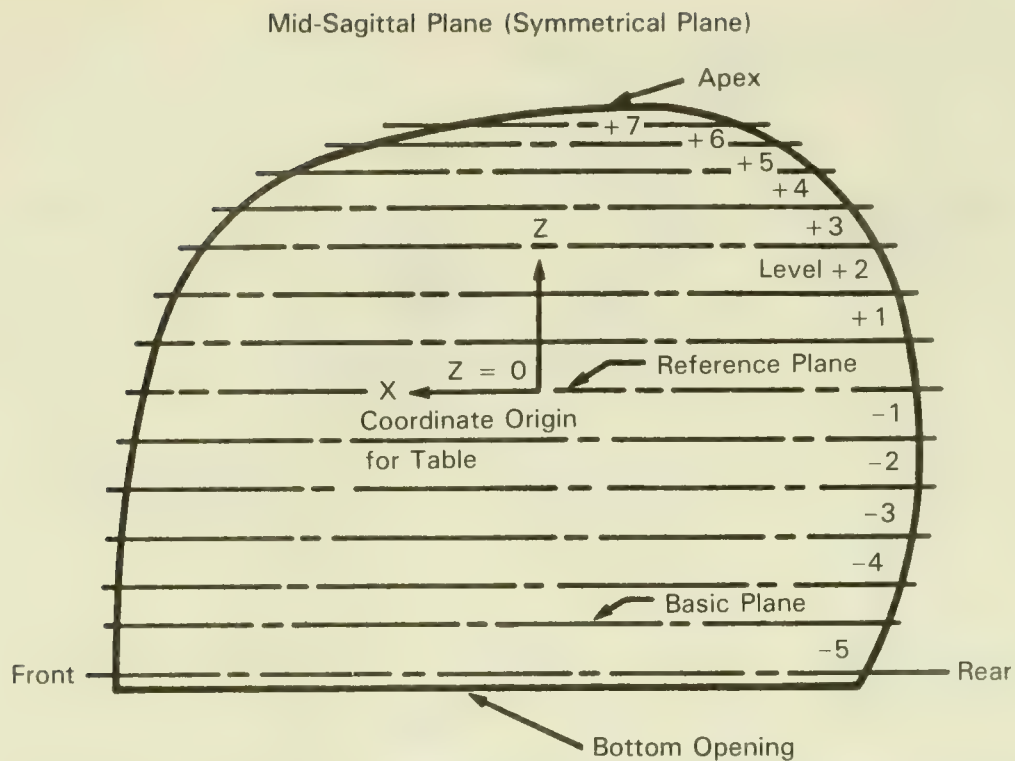


Figure 5. Headform Sections

Table 2

Medium Headform — Exterior Dimensions

θ	Bottom Opening Z= -3.02			Level—5 Z= -2.900		
	R	X	Y	R	X	Y
0	4.292	4.292	0	4.293	4.293	0
10	4.266	4.201	0.741	4.270	4.205	0.742
20	4.159	3.908	1.423	4.172	3.920	1.427
30	3.967	3.436	1.984	3.961	3.430	1.981
40	3.660	2.804	2.353	3.670	2.811	2.359
50	3.332	2.142	2.553	3.352	2.155	2.568
60	3.039	1.520	2.632	3.067	1.534	2.656
70	2.839	0.971	2.668	2.869	0.981	2.696
80	2.720	0.472	2.679	2.772	0.481	2.730
90	2.675	0	2.675	2.709	0	2.709
100	2.703	-0.469	2.662	2.724	-0.473	2.683
110	2.764	-0.945	2.597	2.794	-0.956	2.626
120	2.888	-1.444	2.501	2.917	-1.459	2.526
130	2.985	-1.919	2.287	3.040	-1.954	2.329
140	3.100	-2.375	1.993	3.175	-2.432	2.041
150	3.175	-2.750	1.588	3.232	-2.799	1.616
160	3.186	-2.994	1.090	3.246	-3.050	1.110
170	3.177	-3.129	0.552	3.237	-3.188	0.562
180	3.187	-3.187	0	3.246	-3.246	0

θ	Basic Plane Z= -2.360			Level—4 Z= -2.000		
	R	X	Y	R	X	Y
0	4.272	4.272	0	4.247	4.247	0
10	4.248	4.184	0.738	4.223	4.159	0.733
20	4.147	3.897	1.418	4.120	3.872	1.409
30	3.961	3.430	1.981	3.940	3.412	1.970
40	3.687	2.824	2.370	3.683	2.821	2.367
50	3.384	2.175	2.592	3.392	2.180	2.598
60	3.111	1.556	2.694	3.132	1.566	2.712
70	2.927	1.001	2.751	2.960	1.012	2.782
80	2.815	0.489	2.772	2.860	0.497	2.817
90	2.779	0	2.779	2.838	0	2.838
100	2.802	-0.487	2.759	2.861	-0.497	2.818
110	2.887	-0.987	2.713	2.958	-1.012	2.780
120	3.019	-1.510	2.615	3.098	-1.549	2.683
130	3.180	-2.044	2.436	3.260	-2.096	2.497
140	3.306	-2.533	2.125	3.405	-2.608	2.189
150	3.398	-2.943	1.699	3.516	-3.045	1.758
160	3.458	-3.250	1.183	3.585	-3.369	1.226
170	3.475	-3.422	0.603	3.612	-3.557	0.627
180	3.472	-3.472	0	3.609	-3.609	0

Table 2

Medium Headform — Exterior Dimensions (Continued)

θ	Level—3 Z= -1.500			Level—2 Z= -1.000		
	R	X	Y	R	X	Y
0	4.208	4.208	0	4.148	4.148	0
10	4.179	4.116	0.726	4.112	4.050	0.714
20	4.075	3.829	1.394	4.013	3.771	1.373
30	3.902	3.379	1.951	3.844	3.329	1.922
40	3.654	2.799	2.349	3.609	2.765	2.320
50	3.377	2.171	2.587	3.352	2.155	2.568
60	3.094	1.547	2.680	3.137	1.569	2.717
70	2.982	1.020	2.802	2.989	1.022	2.809
80	2.891	0.502	2.847	2.902	0.504	2.858
90	2.876	0	2.876	2.884	0	2.884
100	2.918	-0.507	2.874	2.943	-0.511	2.898
110	3.021	-1.033	2.839	3.052	-1.044	2.868
120	3.170	-1.585	2.745	3.225	-1.613	2.793
130	3.337	-2.145	2.556	3.397	-2.184	2.602
140	3.483	-2.668	2.239	3.536	-2.709	2.273
150	3.604	-3.121	1.802	3.657	-3.167	1.829
160	3.682	-3.460	1.259	3.751	-3.525	1.283
170	3.725	-3.668	0.647	3.807	-3.749	0.661
180	3.741	-3.741	0	3.822	-3.822	0

θ	Level—1 Z= -0.500			Reference Plane Z=0.0		
	R	X	Y	R	X	Y
0	4.067	4.067	0	3.971	3.971	0
10	4.033	3.972	0.700	3.935	3.875	0.683
20	3.944	3.706	1.349	3.853	3.621	1.318
30	3.777	3.271	1.889	3.701	3.205	1.851
40	3.552	2.721	2.283	3.491	2.674	2.244
50	3.323	2.136	2.546	3.279	2.108	2.512
60	3.126	1.563	2.707	3.101	1.551	2.686
70	2.987	1.022	2.807	2.979	1.019	2.799
80	2.912	0.506	2.868	2.910	0.505	2.866
90	2.893	0	2.893	2.890	0	2.890
100	2.895	-0.503	2.851	2.945	-0.511	2.900
110	3.064	-1.048	2.879	3.062	-1.047	2.877
120	3.231	-1.616	2.798	3.228	-1.614	2.796
130	3.411	-2.193	2.613	3.413	-2.194	2.615
140	3.560	-2.727	2.288	3.563	-2.729	2.290
150	3.682	-3.189	1.841	3.681	-3.188	1.841
160	3.783	-3.555	1.294	3.773	-3.546	1.290
170	3.885	-3.826	0.675	3.832	-3.774	0.665
180	3.857	-3.857	0	3.844	-3.844	0

Table 2

Medium Headform — Exterior Dimensions (Continued)

Θ	Level+1 Z=0.500			Level +2 Z=1.000		
	R	X	Y	R	X	Y
0	3.830	3.830	0	3.665	3.665	0
10	3.801	3.743	0.660	3.613	3.558	0.627
20	3.725	3.500	1.274	3.554	3.340	1.216
30	3.587	3.106	1.794	3.436	2.976	1.718
40	3.399	2.604	2.185	3.271	2.506	2.103
50	3.205	2.060	2.455	3.102	1.994	2.376
60	3.044	1.522	2.636	2.959	1.480	2.563
70	2.927	1.001	2.751	2.854	0.976	2.682
80	2.861	0.497	2.818	2.792	0.485	2.750
90	2.855	0	2.855	2.783	0	2.783
100	2.897	-0.503	2.853	2.832	-0.492	2.789
110	3.007	-1.029	2.826	2.938	-1.005	2.761
120	3.176	-1.588	2.751	3.102	-1.551	2.686
130	3.372	-2.168	2.583	3.294	-2.117	2.523
140	3.520	-2.697	2.263	3.450	-2.643	2.218
150	3.643	-3.155	1.822	3.564	-3.087	1.782
160	3.728	-3.503	1.275	3.637	-3.418	1.244
170	3.777	-3.720	0.656	3.675	-3.619	0.638
180	3.782	-3.782	0	3.670	-3.670	0

Θ	Level +3 Z=1.450			Level +4 Z=1.860		
	R	X	Y	R	X	Y
0	3.419	3.419	0	3.061	3.061	0
10	3.382	3.331	0.587	3.035	2.989	0.527
20	3.299	3.100	1.128	2.966	2.787	1.014
30	3.197	2.769	1.599	2.872	2.487	1.436
40	3.052	2.338	1.962	2.754	2.110	1.770
50	2.911	1.871	2.230	2.642	1.698	2.024
60	2.786	1.393	2.413	2.522	1.261	2.184
70	2.700	0.924	2.537	2.477	0.847	2.328
80	2.647	0.460	2.607	2.442	0.424	2.405
90	2.636	0	2.636	2.442	0	2.442
100	2.691	-0.467	2.650	2.492	-0.433	2.454
110	2.796	-0.956	2.627	2.599	-0.889	2.442
120	2.961	-1.481	2.564	2.758	-1.379	2.389
130	3.147	-2.023	2.411	2.936	-1.887	2.249
140	3.301	-2.529	2.122	3.081	-2.360	1.980
150	3.408	-2.951	1.704	3.176	-2.751	1.588
160	3.479	-3.269	1.190	3.230	-3.035	1.105
170	3.514	-3.461	0.610	3.270	-3.220	0.568
180	3.502	-3.502	0	3.271	-3.271	0

Table 2

Medium Headform — Exterior Dimensions (Continued)

Θ	Level +5 Z=2.250			Level +6 Z=2.560		
	R	X	Y	R	X	Y
0	2.526	2.526	0	1.798	1.798	0
10	2.521	2.483	0.483	1.798	1.771	0.312
20	2.464	2.315	0.843	1.757	1.651	0.601
30	2.387	2.067	1.194	1.719	1.489	0.860
40	2.305	1.766	1.482	1.678	1.285	1.079
50	2.232	1.435	1.710	1.652	1.062	1.266
60	2.174	1.087	1.883	1.641	0.821	1.421
70	2.144	0.733	2.015	1.645	0.563	1.546
80	2.132	0.370	2.100	1.673	0.291	1.648
90	2.147	0	2.147	1.712	0	1.712
100	2.213	-0.384	2.179	1.809	-0.314	1.782
110	2.316	-0.792	2.176	1.925	-0.658	1.809
120	2.463	-1.232	2.133	2.066	-1.033	1.789
130	2.624	-1.687	2.010	2.213	-1.423	1.695
140	2.763	-2.117	1.776	2.358	-1.806	1.516
150	2.863	-2.479	1.432	2.469	-2.138	1.235
160	2.919	-2.743	0.988	2.536	-2.383	0.867
170	2.954	-2.909	0.513	2.561	-2.522	0.445
180	2.958	-2.958	0	2.556	-2.556	0

Θ	Level +7 Z=2.750			Notes:
	R	X	Y	
0	1.081	1.081	0	1. Apex is located at (-0.75, 0, 3.02) for (X,Y,Z) or (0.75, 180, 3.02) for (R, Θ , Z).
10	1.088	1.072	0.189	
20	1.055	0.991	0.361	
30	1.039	0.900	0.520	
40	1.039	0.796	0.668	
50	1.052	0.676	0.806	
60	1.068	0.534	0.925	
70	1.106	0.378	1.039	2. Center of ear opening is located at (0.40, 2.78, -2.36) for (X,Y,Z) or (2.80, 81.8, -2.36) for (R, Θ ,Z).
80	1.171	0.203	1.153	
90	1.242	0	1.242	3. Scale all dimensions by 0.8941 for small headform.
100	1.422	-0.247	1.400	
110	1.489	-0.509	1.399	4. Scale all dimensions by 1.069 for large headform.
120	1.683	-0.842	1.458	
130	1.801	-1.158	1.380	5. Headform is symmetrical about the mid-sagittal plane.
140	1.954	-1.497	1.256	
150	2.083	-1.804	1.042	6. Units: R,X,Y,Z — inches. Θ — degrees.
160	2.138	-2.009	0.731	
170	2.175	-2.142	0.378	7. To obtain metric equivalents in centimeters, multiply each figure by 2.54.
180	2.175	-2.175	0	

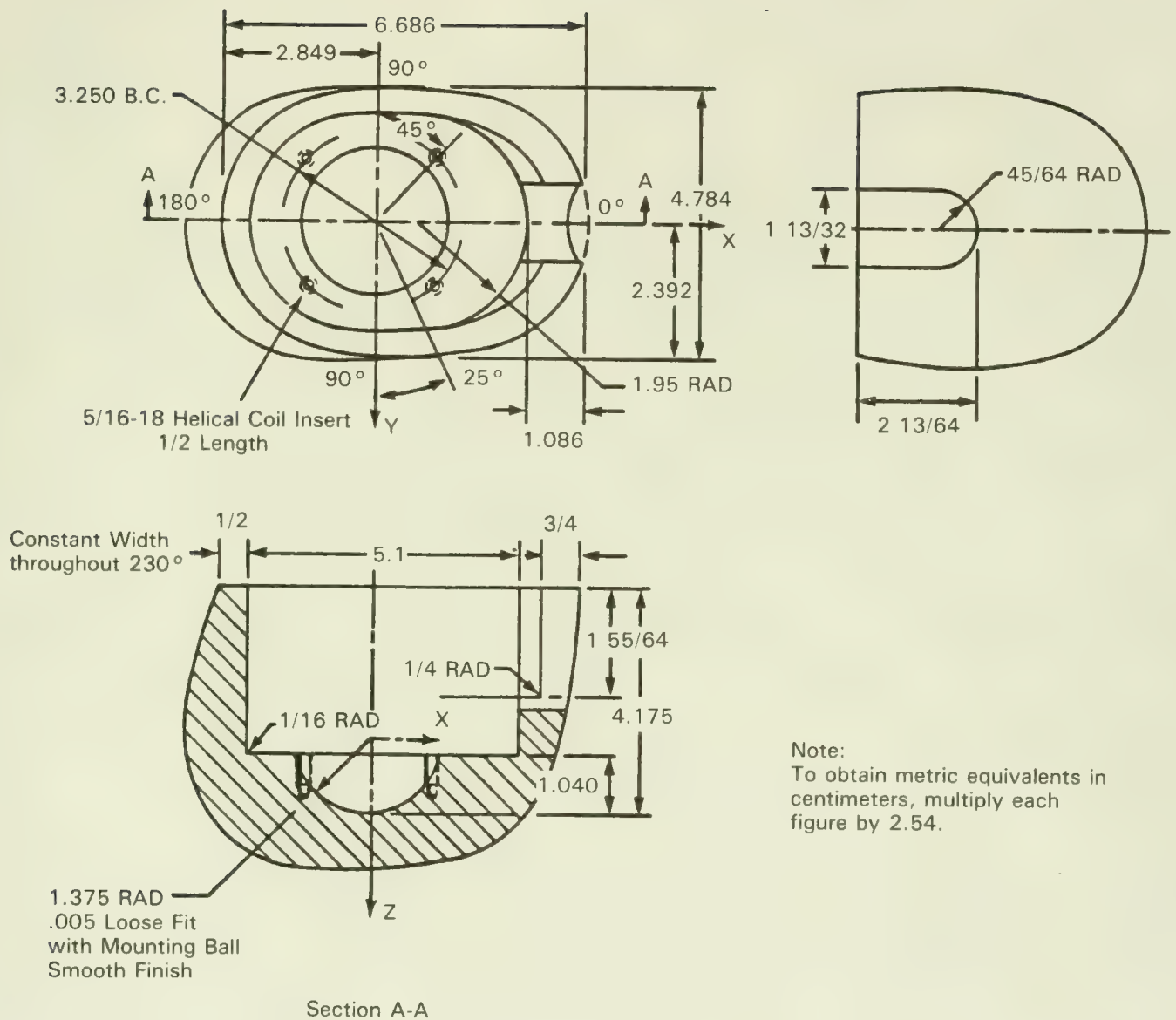


Figure 6. Small Headform — Interior Design

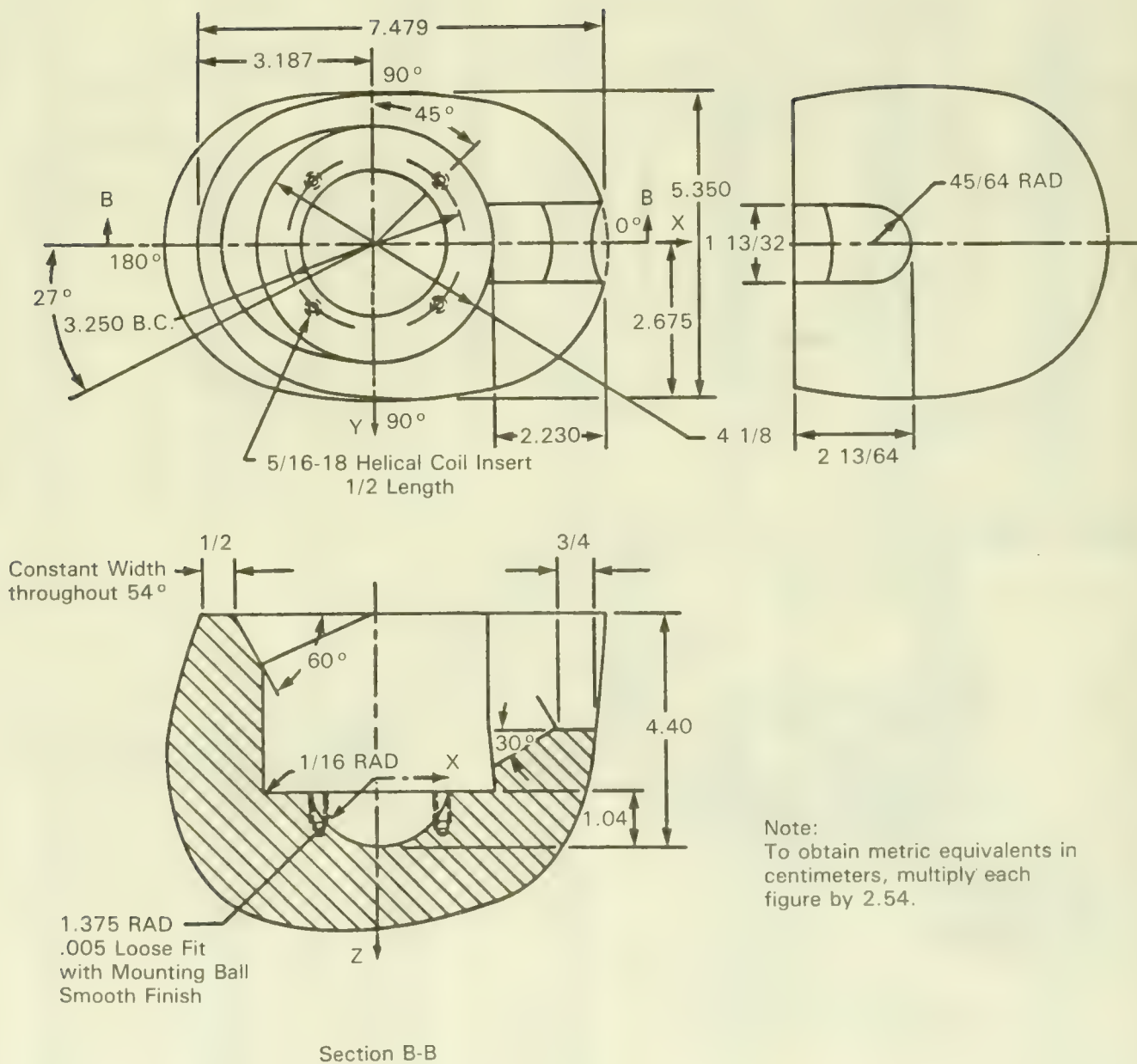


Figure 7. Medium Headform — Interior Design

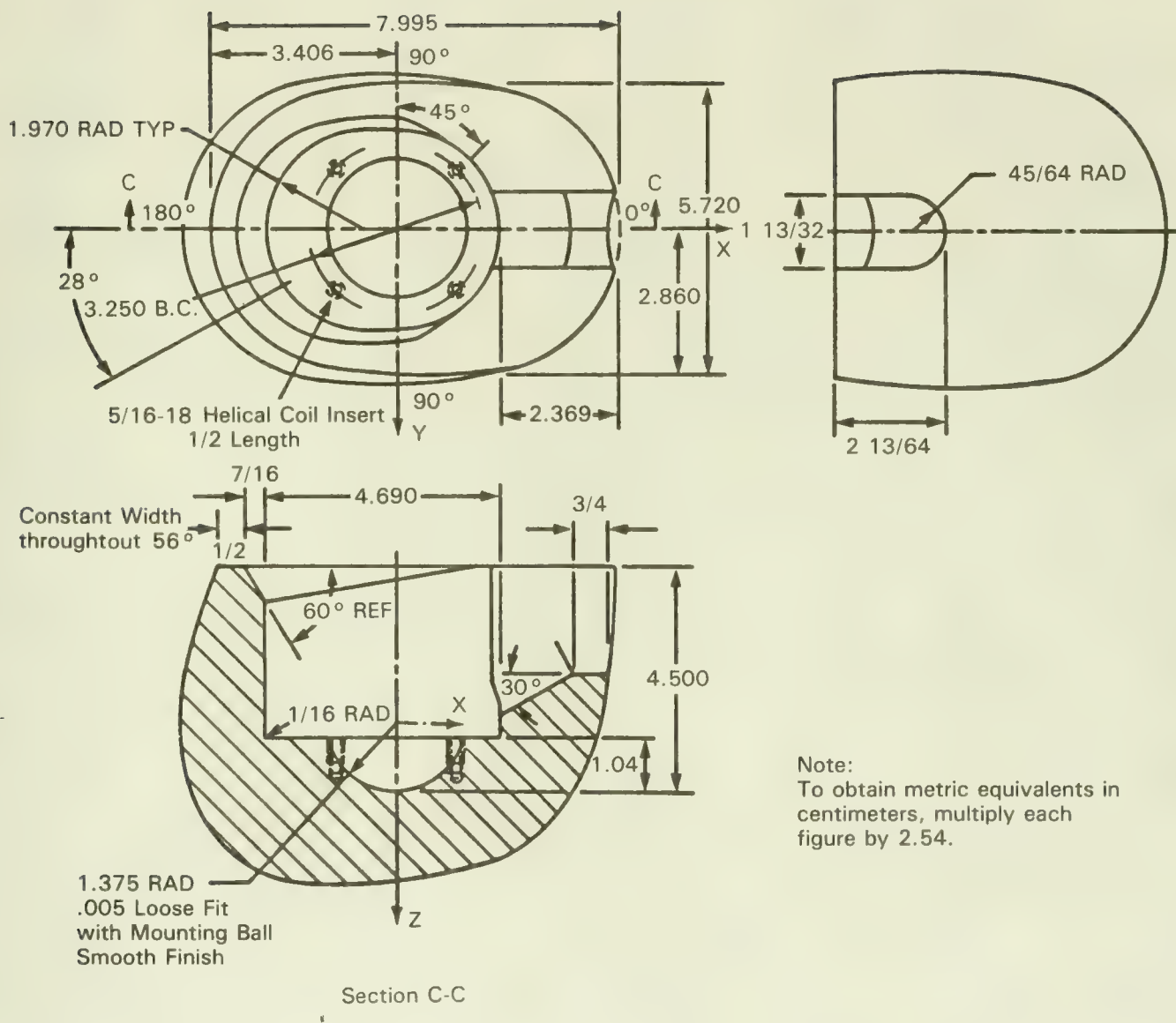


Figure 8. Large Headform — Interior Design

MOTOR VEHICLE SAFETY STANDARD NUMBER 218

Motorcycle Helmets

(Docket No. 72-6; Notice 2)

S1. Scope.

This standard establishes minimum performance requirements for helmets designed for use by motorcyclists and other motor vehicle users.

S2. Purpose.

The purpose of this standard is to reduce deaths and injuries to motorcyclists and other motor vehicle users resulting from head impacts.

S3. Application.

This standard applies to [all] helmets designed for use by motorcyclists and other motor vehicle users.

S4. Definitions.

“Basic plane” means a plane through the centers of the right and left external ear openings and the lower edge of the eye sockets (Figure 1) of a reference headform (Figure 2) or test headform.

“Helmet positioning index” means the distance in inches, as specified by the manufacturer, from the lowest point of the brow opening at the lateral midpoint of the helmet to the basic plane of a reference headform, when the helmet is firmly and properly positioned on the reference headform.

“Midsagittal plane” means a longitudinal plane through the apex of a reference headform or test headform that is perpendicular to the basic plane (Figure 3).

【“Reference headform” means a measuring device contoured to the dimensions of one of the three headforms described in Table 2 and Figures 5 through 8 with surface markings indicating the

locations of the basic, mid-sagittal, and reference planes, and the centers of the external ear openings.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

【“Reference plane” means a plane above and parallel to the basic plane on a reference headform or test headform (Figure 2) at the distance indicated in Table 2.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

“Retention system” means the complete assembly by which the helmet is retained in position on the head during use.

【“Test headform” means a test device contoured to the dimensions of one of the three headforms described in Table 2 and Figures 5 through 8 with surface markings indicating the locations of the basic, mid-sagittal, and reference planes.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

S5. Requirements.

【Each helmet shall meet the requirements of S5.1, S5.2, and S5.3 when subjected to any conditioning procedure specified in S6.4, and tested in accordance with S7.1, S7.2, and S7.3.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

S5.1 Impact attenuation. When an impact attenuation test is conducted in accordance with S7.1, all of the following requirements shall be met:

- (a) Peak accelerations shall not exceed 400g;
- (b) 【Accelerations in excess of 200g shall not exceed a cumulative duration of 2.0 milliseconds; and】
- (c) Accelerations in excess of 150g shall not exceed a cumulative duration of 4.0 milliseconds.

S5.2 Penetration. When a penetration test is conducted in accordance with S7.2, the striker shall not contact the surface of the test headform.

S5.3 Retention system.

S5.3.1 When tested in accordance with S7.3:

(a) The retention system or its components shall attain the loads specified without separation; and

(b) The adjustable portion of the retention system test device shall not move more than 1 inch (2.5 cm) measured between preliminary and test load positions.

S5.3.2 Where the retention system consists of components which can be independently fastened without securing the complete assembly, each such component shall independently meet the requirements of S5.3.1.

S5.4 Configuration. Each helmet shall have a protective surface of continuous contour at all points on or above the test line described in [S6.2.3.] The helmet shall provide peripheral vision clearance of at least 105° to each side of the mid-sagittal plane, when the helmet is adjusted as specified in [S6.3.] The vertex of these angles, shown in Figure 3, shall be at the point on the anterior surface of the reference headform at the intersection of the mid-sagittal and basic planes. The brow opening of the helmet shall be at least 1 inch [(2.5cm)] above all points in the basic plane that are within the angles of peripheral vision (see Figure 3).

S5.5 Projections. A helmet shall not have any rigid projections inside its shell. Rigid projections outside any helmet's shell shall be limited to those required for operation of essential accessories, and shall not protrude more than [0.20 inch (5mm)].

S5.6 Labeling.

S5.6.1 Each helmet shall be labeled permanently and legibly, in a manner such that the label(s) can be read easily without removing padding or any other permanent part, with the following:

- (a) Manufacturer's name or identification.
- (b) Precise model designation.

(c) Size.

(d) Month and year of manufacture. This may be spelled out (for example, June 1988), or expressed in numerals (for example, 6/88).

(e) The symbol DOT, constituting the manufacturer's certification that the helmet conforms to the applicable Federal Motor Vehicle Safety Standards. This symbol shall appear on the outer surface, in a color that contrasts with the background, in letters at least $\frac{3}{8}$ inch [(1 cm)] high, centered laterally with the horizontal centerline of the symbol located a minimum of $1\frac{1}{8}$ inches (2.9 cm) and a maximum of $1\frac{3}{8}$ inches (3.5 cm) from the bottom edge of the posterior portion of the helmet. (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

[(f) Instructions to the purchaser as follows:

(1) "Shell and liner constructed of (identify type(s) of materials)."

(2) "Helmet can be seriously damaged by some common substances without damage being visible to the user. Apply only the following: (Recommended cleaning agents, paints, adhesives, etc., as appropriate)."

(3) "Make no modifications. Fasten helmet securely. If helmet experiences a severe blow, return it to the manufacturer for inspection, or destroy it and replace it."

(4) Any additional relevant safety information should be supplied at the time of purchase by means of an attached tag, brochure, or other suitable means. (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

S5.7 Helmet positioning index. Each manufacturer of helmets shall establish a positioning index for each helmet he manufactures. This index shall be furnished immediately to any person who requests the information, with respect to a helmet identified by manufacturer, model designation, and size.

S6. Preliminary test procedures. Before subjecting a helmet to the testing sequence specified in S7., prepare it according to the following procedures [S6.1, S6.2, and S6.3].

[S6.1 Selection of appropriate headform.

S6.1.1 A helmet with a manufacturer's designated discrete size or size range which does

not exceed 6 ¾ (European size: 54) is tested on the small headform. A helmet with a manufacturer's designated discrete size or size range which exceeds 6 ¾, but does not exceed 7 ½ (European size: 60) is tested on the medium headform. A helmet with a manufacturer's designated discrete size or size range which exceeds 7 ½ is tested on the large headform.

S6.1.2 A helmet with a manufacturer's designated size range which includes sizes falling into two or all three size ranges described in S6.1.1 is tested on each headform specified for each size range.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

[S6.2 Reference marking.

S6.2.1 Use a reference headform that is firmly seated with the basic and reference planes horizontal. Place the complete helmet to be tested on the appropriate reference headform, as specified in S6.1.1 and S6.1.2.

S6.2.2 Apply a 10-pound (4.5 kg) static vertical load through the helmet's apex. Center the helmet laterally and seat it firmly on the reference headform according to its helmet positioning index.

S6.2.3 Maintaining the load and position described in S6.2.2, draw a line (hereinafter referred to as "test line") on the outer surface of the helmet coinciding with portions of the intersection of that surface with the following planes, as shown in Figure 2:

(a) A plane 1 inch (2.5 cm) above and parallel to the reference plane in the anterior portion of the reference headform;

(b) A vertical transverse plane 2.5 inches (6.4 cm) behind the point on the anterior surface of the reference headform at the intersection of the mid-sagittal and reference planes;

(c) The reference plane of the reference headform;

(d) A vertical transverse plane 2.5 inches (6.4 cm) behind the center of the external ear opening in a side view; and

(e) A plane 1 (2.5 cm) inch below and parallel to the reference plane in the posterior portion of the reference headform.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

S6.3 Helmet positioning.

S6.3.1 Before each test, fix the helmet on a test headform in the position that conforms to its helmet positioning index. Secure the helmet so that it does not shift position before impact or before application of force during testing.

[S6.3.2] In testing as specified in S7.1 and S7.2, place the retention system in a position such that it does not interfere with free fall, impact, or penetration.

S6.4 Conditioning.

S6.4.1 Immediately before conducting the testing sequence specified in S7., condition each test helmet in accordance with any one of the following procedures:

(a) *Ambient conditions.* Expose to a temperature of 70° F. [(21°C)] and a relative humidity of 50% for 12 hours.

(b) *Low temperature.* Expose to a temperature of 14° F. [(−10°C)] for 12 hours.

(c) *High temperature.* Expose to a temperature of 122° F. [(50° C)] for 12 hours.

(d) *Water immersion.* Immerse in water at a temperature of 77° F. [(25° C)] for 12 hours.

S6.4.2 If during testing, as specified in S7.1.3 and S7.2.3, a helmet is returned to the conditioning environment before the time out of that environment exceeds 4 minutes, the helmet is kept in the environment for a minimum of 3 minutes before resumption of testing with that helmet. If the time out of the environment exceeds 4 minutes, the helmet is returned to the environment for a minimum of 3 minutes for each minute or portion of a minute that the helmet remained out of the environment in excess of 4 minutes or for a maximum of 12 hours, whichever is less, before the resumption of testing with than helmet.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

S7. Test conditions.

S7.1 Impact attenuation test.

S7.1.1 Impact attenuation is measured by determining acceleration imparted to an instrumented test headform on which a complete helmet is mounted as specified in [S6.3], when it is dropped in guided free fall upon a fixed hemispherical anvil and a fixed flat steel anvil.

S7.1.2 Each helmet is impacted at four sites with two successive, identical impacts at each site.

Two of these sites are impacted upon a flat steel anvil and two upon a hemispherical steel anvil as specified in [S7.1.10] and [S7.1.11]. The impact sites are at any point on the area above the test line described in [S6.2.3], and separated by a distance not less than one-sixth of the maximum circumference of the helmet [in the test area].

S7.1.3 [Impact testing at each of the four sites, as specified in S7.1.2, shall start at two minutes, and be completed by four minutes, after removal of the helmet from the conditioning environment.

S7.1.4 (a) The guided free fall drop height for the helmet and test headform combination onto the hemispherical anvil shall be such that the minimum impact speed is 17.1 feet/second (5.2 m/sec). The minimum drop height is 54.5 inches (138.4 cm). The drop height is adjusted upward from the minimum to the extent necessary to compensate for friction losses.

(b) The guided free fall drop height for the helmet and test headform combination onto the flat anvil shall be such that the minimum impact speed is 19.7 ft/sec. (6.0 m/sec). The minimum drop height is 72 inches (182.9 cm). The drop height is adjusted upward from the minimum to the extent necessary to compensate for friction losses.

S7.1.5 Test headforms for impact attenuation testing are constructed of magnesium alloy (K-1A), and exhibit no resonant frequencies below 2,000 Hz.

S7.1.6 The monorail drop test system is used for impact attenuation testing.

S7.1.7 The weight of the drop assembly, as specified in Table 1, is the combined weight of the test headform and the supporting assembly for the drop test. The weight of the supporting assembly is not less than 2.0 lbs. and not more than 2.4 lbs. (0.9 to 1.1 kg). The supporting assembly weight for the monorail system is the drop assembly weight minus the combined weight of the test headform, the headform's clamp down ring, and its tie down screws.

S7.1.8 The center of gravity of the test headform is located at the center of the mounting ball

on the supporting assembly and lies within a cone with its axis vertical and forming and 10° included angle with the vertex at the point of impact. The center of gravity of the drop assembly lies with the rectangular volume bounded by $x = -0.25$ inch (-0.64 cm), $x = 0.85$ inch (2.16 cm), $y = 0.25$ inch (0.64 cm), and $y = -0.25$ inch (-0.64 cm) with the origin located at the center of gravity of the test headform. The rectangular volume has no boundary along the z-axis. The x-y-z axes are mutually perpendicular and have positive or negative designations in accordance with the right-hand rule (See Figure 5). The origin of the coordinate axes also is located at the center of the mounting ball on the supporting assembly (See Figures 6, 7, and 8). The x-y-z axes of the test headform assembly on a monorail drop test equipment are oriented as follows: From the origin, the x-axis is horizontal with its positive direction going toward and passing through the vertical centerline of the monorail. The positive z-axis is downward. The y-axis also is horizontal and its direction can be decided by the z- and x-axes, using the right-hand rule.

S7.1.9 The acceleration transducer is mounted at the center of gravity of the test headform with the sensitive axis aligned to within 5° of vertical when the test headform assembly is in the impact position. The acceleration data channel complies with *SAE Recommended Practice J211 JUN 80, Instrumentation for Impact Tests, requirements for channel class 1,000*.

S7.1.10 The flat anvil is constructed of steel with a 5-inch (12.7 cm) minimum diameter impact face, and the hemispherical anvil is constructed of steel with a 1.9 inch (4.8 cm) radius impact face.

S7.1.11 The rigid mount for both of the anvils consists of a solid mass of at least 300 pounds (136.1 kg), the outer surface of which consists of a steel plate with minimum thickness of 1 inch (2.5 cm) and minimum surface area of 1 ft² (929 cm²).

S7.1.12 The drop system restricts side movement during the impact attenuation test so that the sum of the areas bounded by the acceleration-time response curves for both the x- and y-axes (horizontal axes) is less than five percent of the

area bounded by the acceleration-time response curve for the vertical axis.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

S7.2 Penetration test.

S7.2.1. The penetration test is conducted by dropping the penetration test striker in guided free fall, with its axis aligned vertically, onto the outer surface of the complete helmet, when mounted as specified in 【S6.3】, at any point above the test line, described in 【S6.2.3】, except on a fastener or other rigid projection.

S7.2.2 Two penetration blows are applied at least 3 inches 【(7.6 cm)】 apart, and at least 3 inches 【(7.6 cm)】 from the centers of any impacts applied during the impact attenuation test.

【**S7.2.3** The application of the two penetration blows, specified in S7.2.2, starts at two minutes and is completed by four minutes, after removal of the helmet from the conditioning environment.】 (53 F.R. 11280—April 6, 1988. Effective: October 3, 1988)

【**S7.2.4** The height of the guided free fall is 118.1 inches, 【(3 m),】 as measured from the striker point to the impact point on the outer surface of the test helmet.

【**S7.2.5** The contactable surface of the penetration test headform is constructed of a metal or metallic alloy having a Brinell hardness number no greater than 55, which will permit ready detection should contact by the striker occur. The surface is refinished if necessary before each penetration test blow to permit detection of contact by the striker.

【**S7.2.6** The weight of the penetration striker is 6 pounds, 10 ounces 【(3 kg)】.

【**S7.2.7** The point of the striker has an included angle of 60°, a cone height of 1.5 inches 【(3.8 cm)】, a tip radius of 0.019 inch (standard 0.5 millimeter radius) and a minimum hardness of 60 Rockwell, C-scale.

S7.2.8 The rigid mount for the penetration test headform is as described in 【S7.1.11】.

S7.3 Retention system test.

S7.3.1 The retention system test is conducted by applying a static tensile load to the retention assembly of a complete helmet, which is mounted, as described in 【S6.3】, on a stationary test headform as shown in Figure 4, and by measuring the movement of the adjustable portion of the retention system test device under tension.

S7.3.2 The retention system test device consists of both an adjustable loading mechanism by which a static tensile load is applied to the helmet retention assembly and a means for holding the test headform and helmet stationary. The retention assembly is fastened around two freely moving rollers, both of which have 0.5 inch 【(1.3 cm)】 diameter and a 3-inch 【(7.6 cm)】 center-to-center separation, and which are mounted on the adjustable portion of the tensile loading device (Figure 4). The helmet is fixed on the test headform as necessary to ensure that it does not move during the application of the test loads to the retention assembly.

S7.3.3 A 50-pound 【(22.7 kg)】 preliminary test load is applied to the retention assembly, normal to the basic plane of the test headform and symmetrical with respect to the center of the retention assembly for 30 seconds, and the maximum distance from the extremity of the adjustable portion of the retention system test device to the apex of the helmet is measured.

S7.3.4 An additional 250-pound 【(113.4 kg)】 test load is applied to the retention assembly, in the same manner and at the same location as described in S7.3.3, for 120 seconds, and the maximum distance from the extremity of the adjustable portion of the retention system test device to the apex of the helmet is measured.

38 F.R. 22390

August 20, 1973

Appendix

Table 1.

Weights for Impact Attenuation Test Drop Assembly

Test Headform Size	Weight ¹ — 1 lb(kg)
Small	7.8 (3.5 kg)
Medium	11.0 (5.0 kg)
Large	13.4 (6.1 kg)

¹Combined weight of instrumented test headform and supporting assembly for drop test.

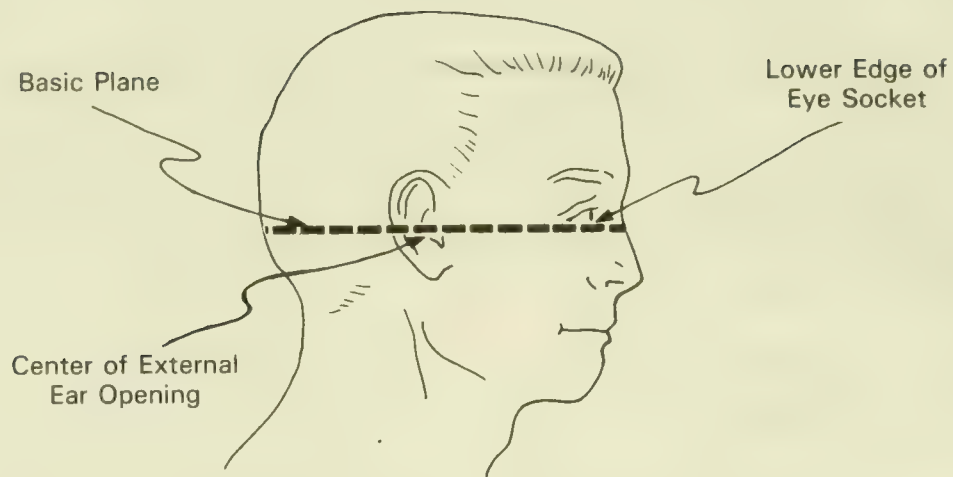
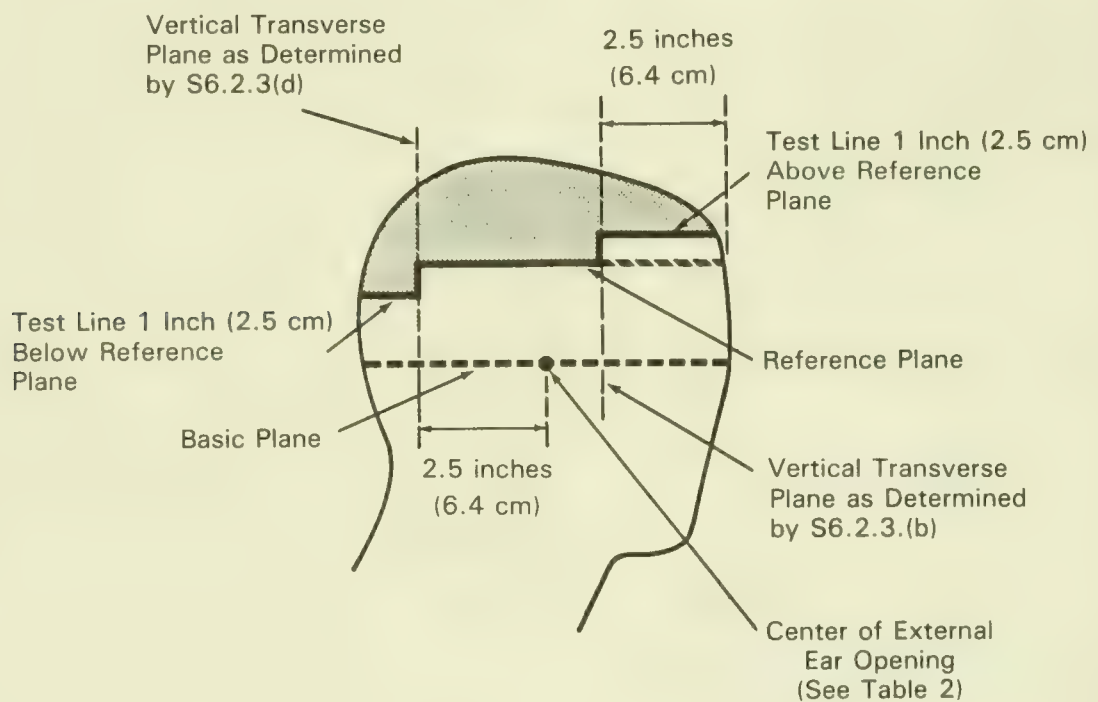


Figure 1.



Note: Solid lines would correspond to the test line on a test helmet.

 Test Surface

Figure 2.

Section Through the Basic Plane

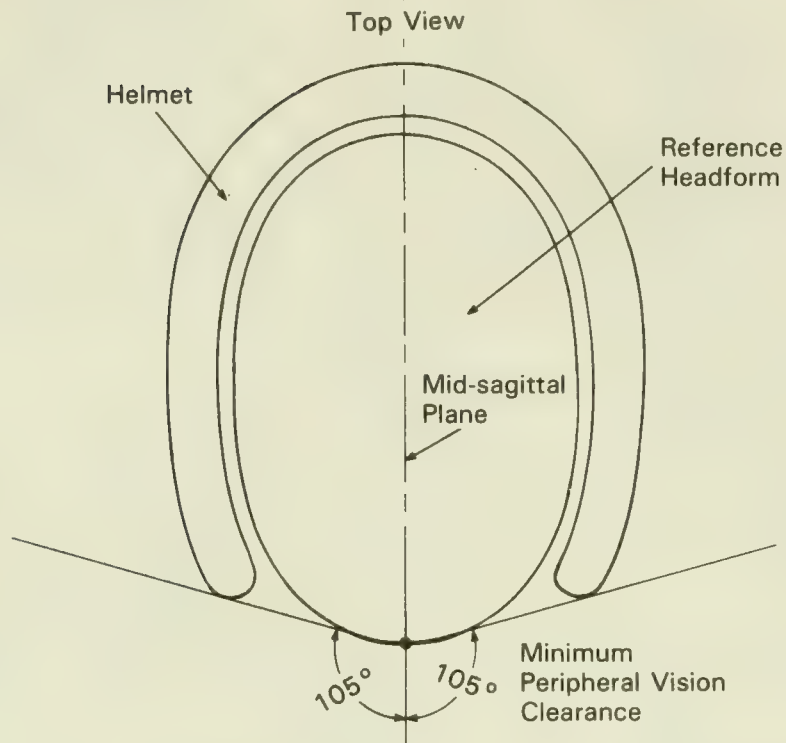


Figure 3.

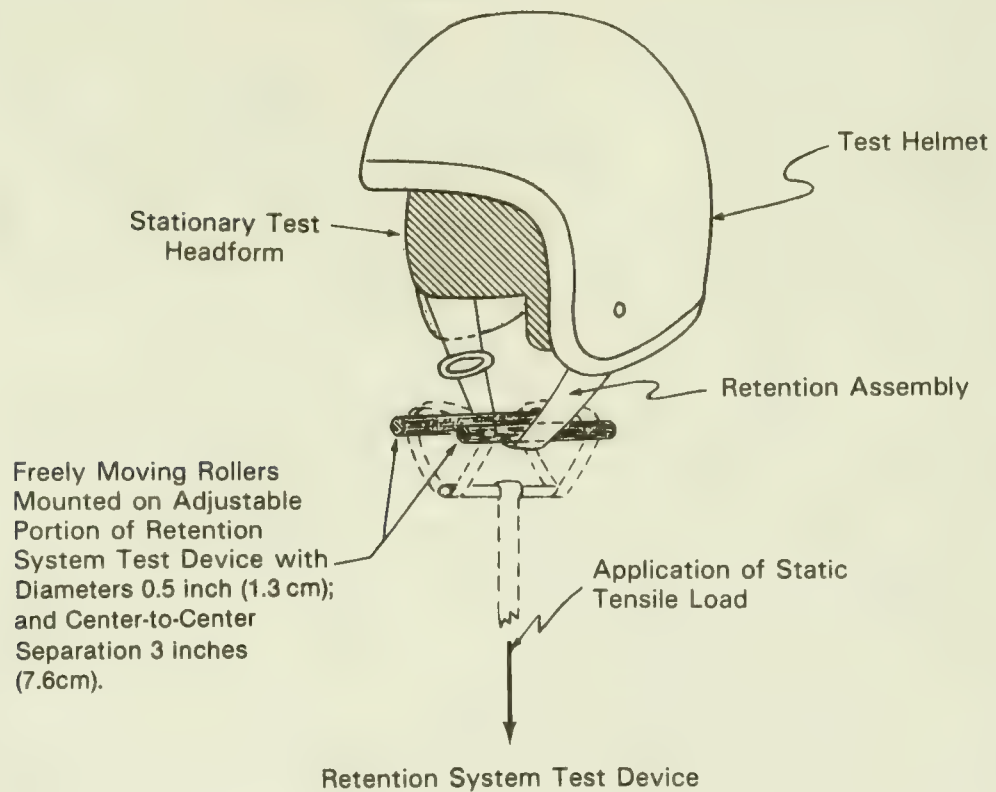


Figure 4.

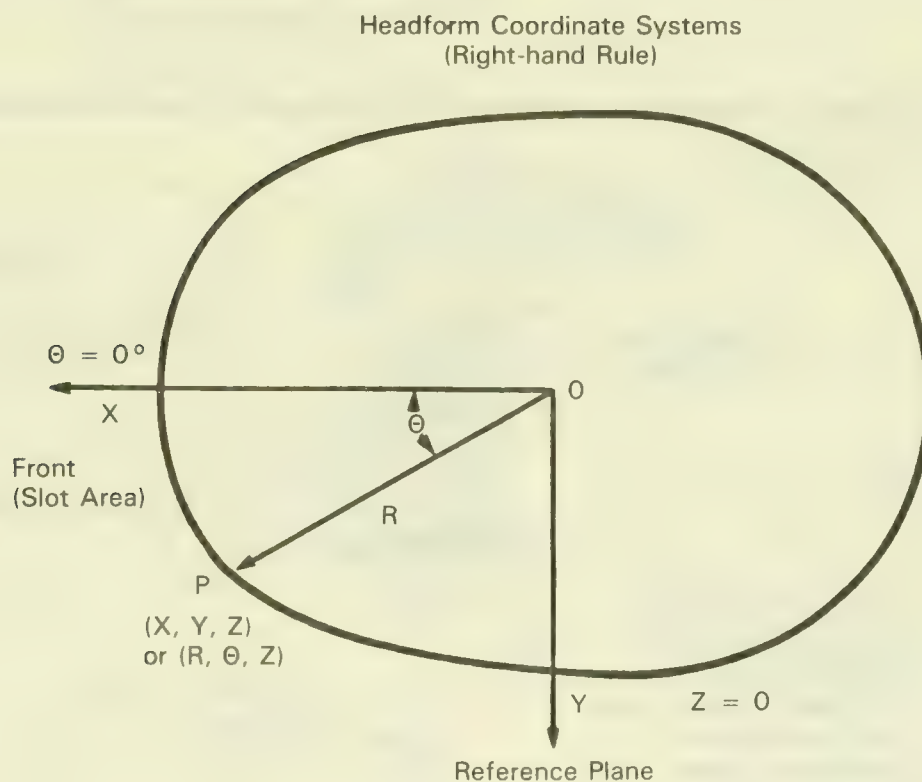
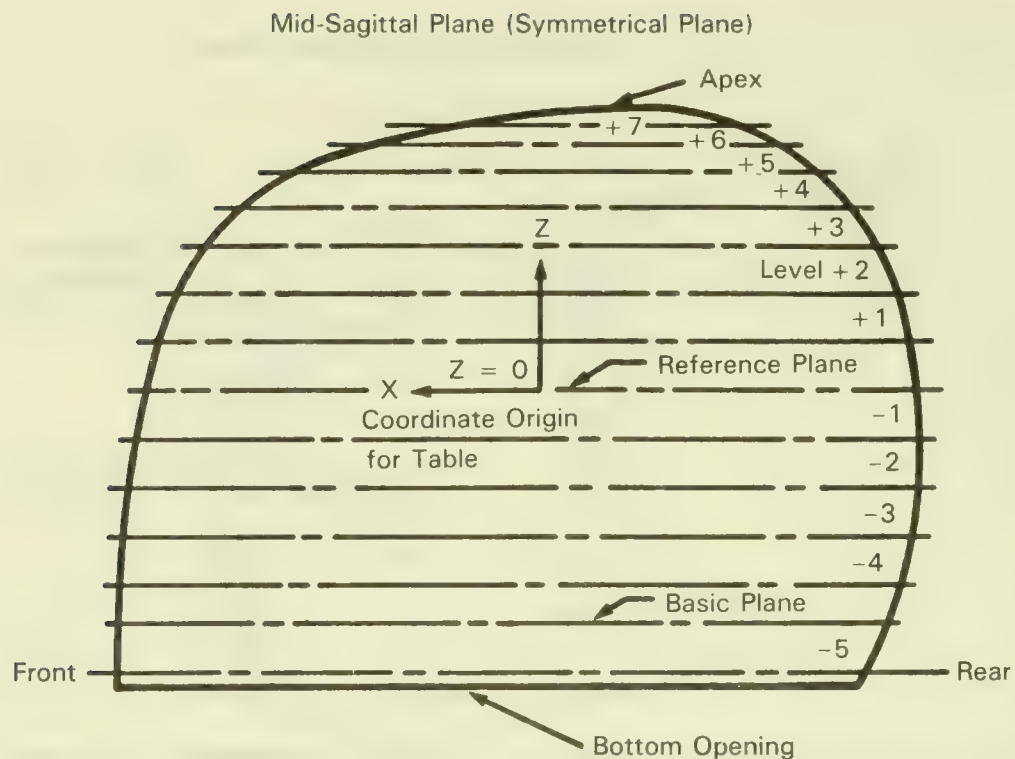


Figure 5. Headform Sections

Table 2

Medium Headform — Exterior Dimensions

θ	Bottom Opening Z= -3.02			Level-5 Z= -2.900		
	R	X	Y	R	X	Y
0	4.292	4.292	0	4.293	4.293	0
10	4.266	4.201	0.741	4.270	4.205	0.742
20	4.159	3.908	1.423	4.172	3.920	1.427
30	3.967	3.436	1.984	3.961	3.430	1.981
40	3.660	2.804	2.353	3.670	2.811	2.359
50	3.332	2.142	2.553	3.352	2.155	2.568
60	3.039	1.520	2.632	3.067	1.534	2.656
70	2.839	0.971	2.668	2.869	0.981	2.696
80	2.720	0.472	2.679	2.772	0.481	2.730
90	2.675	0	2.675	2.709	0	2.709
100	2.703	-0.469	2.662	2.724	-0.473	2.683
110	2.764	-0.945	2.597	2.794	-0.956	2.626
120	2.888	-1.444	2.501	2.917	-1.459	2.526
130	2.985	-1.919	2.287	3.040	-1.954	2.329
140	3.100	-2.375	1.993	3.175	-2.432	2.041
150	3.175	-2.750	1.588	3.232	-2.799	1.616
160	3.186	-2.994	1.090	3.246	-3.050	1.110
170	3.177	-3.129	0.552	3.237	-3.188	0.562
180	3.187	-3.187	0	3.246	-3.246	0

θ	Basic Plane Z= -2.360			Level-4 Z= -2.000		
	R	X	Y	R	X	Y
0	4.272	4.272	0	4.247	4.247	0
10	4.248	4.184	0.738	4.223	4.159	0.733
20	4.147	3.897	1.418	4.120	3.872	1.409
30	3.961	3.430	1.981	3.940	3.412	1.970
40	3.687	2.824	2.370	3.683	2.821	2.367
50	3.384	2.175	2.592	3.392	2.180	2.598
60	3.111	1.556	2.694	3.132	1.566	2.712
70	2.927	1.001	2.751	2.960	1.012	2.782
80	2.815	0.489	2.772	2.860	0.497	2.817
90	2.779	0	2.779	2.838	0	2.838
100	2.802	-0.487	2.759	2.861	-0.497	2.818
110	2.887	-0.987	2.713	2.958	-1.012	2.780
120	3.019	-1.510	2.615	3.098	-1.549	2.683
130	3.180	-2.044	2.436	3.260	-2.096	2.497
140	3.306	-2.533	2.125	3.405	-2.608	2.189
150	3.398	-2.943	1.699	3.516	-3.045	1.758
160	3.458	-3.250	1.183	3.585	-3.369	1.226
170	3.475	-3.422	0.603	3.612	-3.557	0.627
180	3.472	-3.472	0	3.609	-3.609	0

Table 2

Medium Headform — Exterior Dimensions (Continued)

θ	Level—3 Z= -1.500			Level—2 Z= -1.000		
	R	X	Y	R	X	Y
0	4.208	4.208	0	4.148	4.148	0
10	4.179	4.116	0.726	4.112	4.050	0.714
20	4.075	3.829	1.394	4.013	3.771	1.373
30	3.902	3.379	1.951	3.844	3.329	1.922
40	3.654	2.799	2.349	3.609	2.765	2.320
50	3.377	2.171	2.587	3.352	2.155	2.568
60	3.094	1.547	2.680	3.137	1.569	2.717
70	2.982	1.020	2.802	2.989	1.022	2.809
80	2.891	0.502	2.847	2.902	0.504	2.858
90	2.876	0	2.876	2.884	0	2.884
100	2.918	-0.507	2.874	2.943	-0.511	2.898
110	3.021	-1.033	2.839	3.052	-1.044	2.868
120	3.170	-1.585	2.745	3.225	-1.613	2.793
130	3.337	-2.145	2.556	3.397	-2.184	2.602
140	3.483	-2.668	2.239	3.536	-2.709	2.273
150	3.604	-3.121	1.802	3.657	-3.167	1.829
160	3.682	-3.460	1.259	3.751	-3.525	1.283
170	3.725	-3.668	0.647	3.807	-3.749	0.661
180	3.741	-3.741	0	3.822	-3.822	0

θ	Level—1 Z= -0.500			Reference Plane Z=0.0		
	R	X	Y	R	X	Y
0	4.067	4.067	0	3.971	3.971	0
10	4.033	3.972	0.700	3.935	3.875	0.683
20	3.944	3.706	1.349	3.853	3.621	1.318
30	3.777	3.271	1.889	3.701	3.205	1.851
40	3.552	2.721	2.283	3.491	2.674	2.244
50	3.323	2.136	2.546	3.279	2.108	2.512
60	3.126	1.563	2.707	3.101	1.551	2.686
70	2.987	1.022	2.807	2.979	1.019	2.799
80	2.912	0.506	2.868	2.910	0.505	2.866
90	2.893	0	2.893	2.890	0	2.890
100	2.895	-0.503	2.851	2.945	-0.511	2.900
110	3.064	-1.048	2.879	3.062	-1.047	2.877
120	3.231	-1.616	2.798	3.228	-1.614	2.796
130	3.411	-2.193	2.613	3.413	-2.194	2.615
140	3.560	-2.727	2.288	3.563	-2.729	2.290
150	3.682	-3.189	1.841	3.681	-3.188	1.841
160	3.783	-3.555	1.294	3.773	-3.546	1.290
170	3.885	-3.826	0.675	3.832	-3.774	0.665
180	3.857	-3.857	0	3.844	-3.844	0

Table 2

Medium Headform — Exterior Dimensions (Continued)

θ	Level+1 Z=0.500			Level +2 Z=1.000		
	R	X	Y	R	X	Y
0	3.830	3.830	0	3.665	3.665	0
10	3.801	3.743	0.660	3.613	3.558	0.627
20	3.725	3.500	1.274	3.554	3.340	1.216
30	3.587	3.106	1.794	3.436	2.976	1.718
40	3.399	2.604	2.185	3.271	2.506	2.103
50	3.205	2.060	2.455	3.102	1.994	2.376
60	3.044	1.522	2.636	2.959	1.480	2.563
70	2.927	1.001	2.751	2.854	0.976	2.682
80	2.861	0.497	2.818	2.792	0.485	2.750
90	2.855	0	2.855	2.783	0	2.783
100	2.897	-0.503	2.853	2.832	-0.492	2.789
110	3.007	-1.029	2.826	2.938	-1.005	2.761
120	3.176	-1.588	2.751	3.102	-1.551	2.686
130	3.372	-2.168	2.583	3.294	-2.117	2.523
140	3.520	-2.697	2.263	3.450	-2.643	2.218
150	3.643	-3.155	1.822	3.564	-3.087	1.782
160	3.728	-3.503	1.275	3.637	-3.418	1.244
170	3.777	-3.720	0.656	3.675	-3.619	0.638
180	3.782	-3.782	0	3.670	-3.670	0

θ	Level +3 Z=1.450			Level +4 Z=1.860		
	R	X	Y	R	X	Y
0	3.419	3.419	0	3.061	3.061	0
10	3.382	3.331	0.587	3.035	2.989	0.527
20	3.299	3.100	1.128	2.966	2.787	1.014
30	3.197	2.769	1.599	2.872	2.487	1.436
40	3.052	2.338	1.962	2.754	2.110	1.770
50	2.911	1.871	2.230	2.642	1.698	2.024
60	2.786	1.393	2.413	2.522	1.261	2.184
70	2.700	0.924	2.537	2.477	0.847	2.328
80	2.647	0.460	2.607	2.442	0.424	2.405
90	2.636	0	2.636	2.442	0	2.442
100	2.691	-0.467	2.650	2.492	-0.433	2.454
110	2.796	-0.956	2.627	2.599	-0.889	2.442
120	2.961	-1.481	2.564	2.758	-1.379	2.389
130	3.147	-2.023	2.411	2.936	-1.887	2.249
140	3.301	-2.529	2.122	3.081	-2.360	1.980
150	3.408	-2.951	1.704	3.176	-2.751	1.588
160	3.479	-3.269	1.190	3.230	-3.035	1.105
170	3.514	-3.461	0.610	3.270	-3.220	0.568
180	3.502	-3.502	0	3.271	-3.271	0

Table 2

Medium Headform — Exterior Dimensions (Continued)

Θ	Level +5 Z=2.250			Level +6 Z=2.560		
	R	X	Y	R	X	Y
0	2.526	2.526	0	1.798	1.798	0
10	2.521	2.483	0.483	1.798	1.771	0.312
20	2.464	2.315	0.843	1.757	1.651	0.601
30	2.387	2.067	1.194	1.719	1.489	0.860
40	2.305	1.766	1.482	1.678	1.285	1.079
50	2.232	1.435	1.710	1.652	1.062	1.266
60	2.174	1.087	1.883	1.641	0.821	1.421
70	2.144	0.733	2.015	1.645	0.563	1.546
80	2.132	0.370	2.100	1.673	0.291	1.648
90	2.147	0	2.147	1.712	0	1.712
100	2.213	-0.384	2.179	1.809	-0.314	1.782
110	2.316	-0.792	2.176	1.925	-0.658	1.809
120	2.463	-1.232	2.133	2.066	-1.033	1.789
130	2.624	-1.687	2.010	2.213	-1.423	1.695
140	2.763	-2.117	1.776	2.358	-1.806	1.516
150	2.863	-2.479	1.432	2.469	-2.138	1.235
160	2.919	-2.743	0.988	2.536	-2.383	0.867
170	2.954	-2.909	0.513	2.561	-2.522	0.445
180	2.958	-2.958	0	2.556	-2.556	0

Θ	Level +7 Z=2.750			Notes:
	R	X	Y	
0	1.081	1.081	0	<p>1. Apex is located at (-0.75, 0, 3.02) for (X,Y,Z) or (0.75, 180, 3.02) for (R, Θ, Z).</p> <p>2. Center of ear opening is located at (0.40, 2.78, -2.36) for (X,Y,Z) or (2.80, 81.8, -2.36) for (R,Θ,Z).</p> <p>3. Scale all dimensions by 0.8941 for small headform.</p> <p>4. Scale all dimensions by 1.069 for large headform.</p> <p>5. Headform is symmetrical about the mid-sagittal plane.</p> <p>6. Units: R,X,Y,Z — inches. Θ — degrees.</p> <p>7. To obtain metric equivalents in centimeters, multiply each figure by 2.54.</p>
10	1.088	1.072	0.189	
20	1.055	0.991	0.361	
30	1.039	0.900	0.520	
40	1.039	0.796	0.668	
50	1.052	0.676	0.806	
60	1.068	0.534	0.925	
70	1.106	0.378	1.039	
80	1.171	0.203	1.153	
90	1.242	0	1.242	
100	1.422	-0.247	1.400	
110	1.489	-0.509	1.399	
120	1.683	-0.842	1.458	
130	1.801	-1.158	1.380	
140	1.954	-1.497	1.256	
150	2.083	-1.804	1.042	
160	2.138	-2.009	0.731	
170	2.175	-2.142	0.378	
180	2.175	-2.175	0	

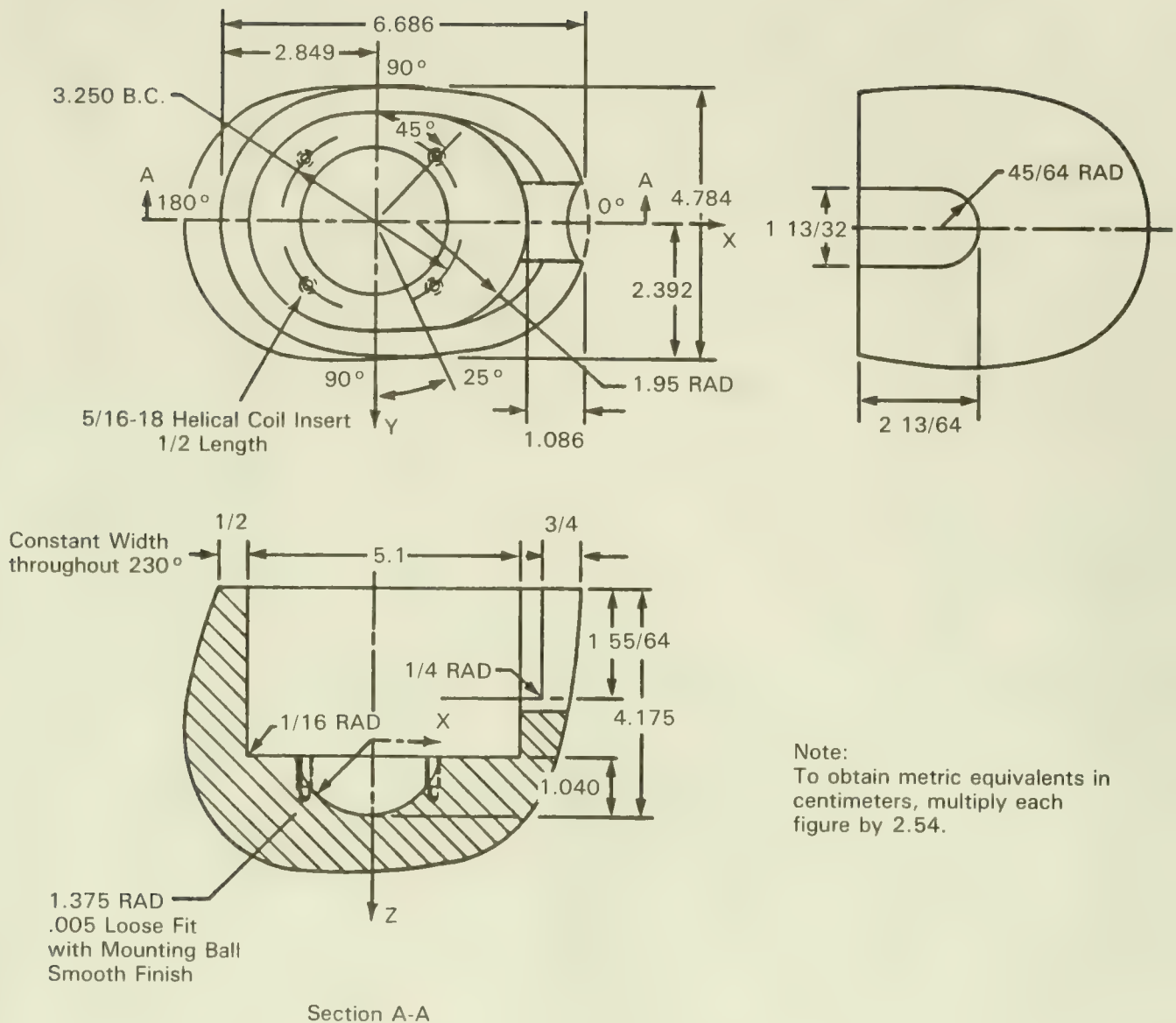


Figure 6. Small Headform — Interior Design

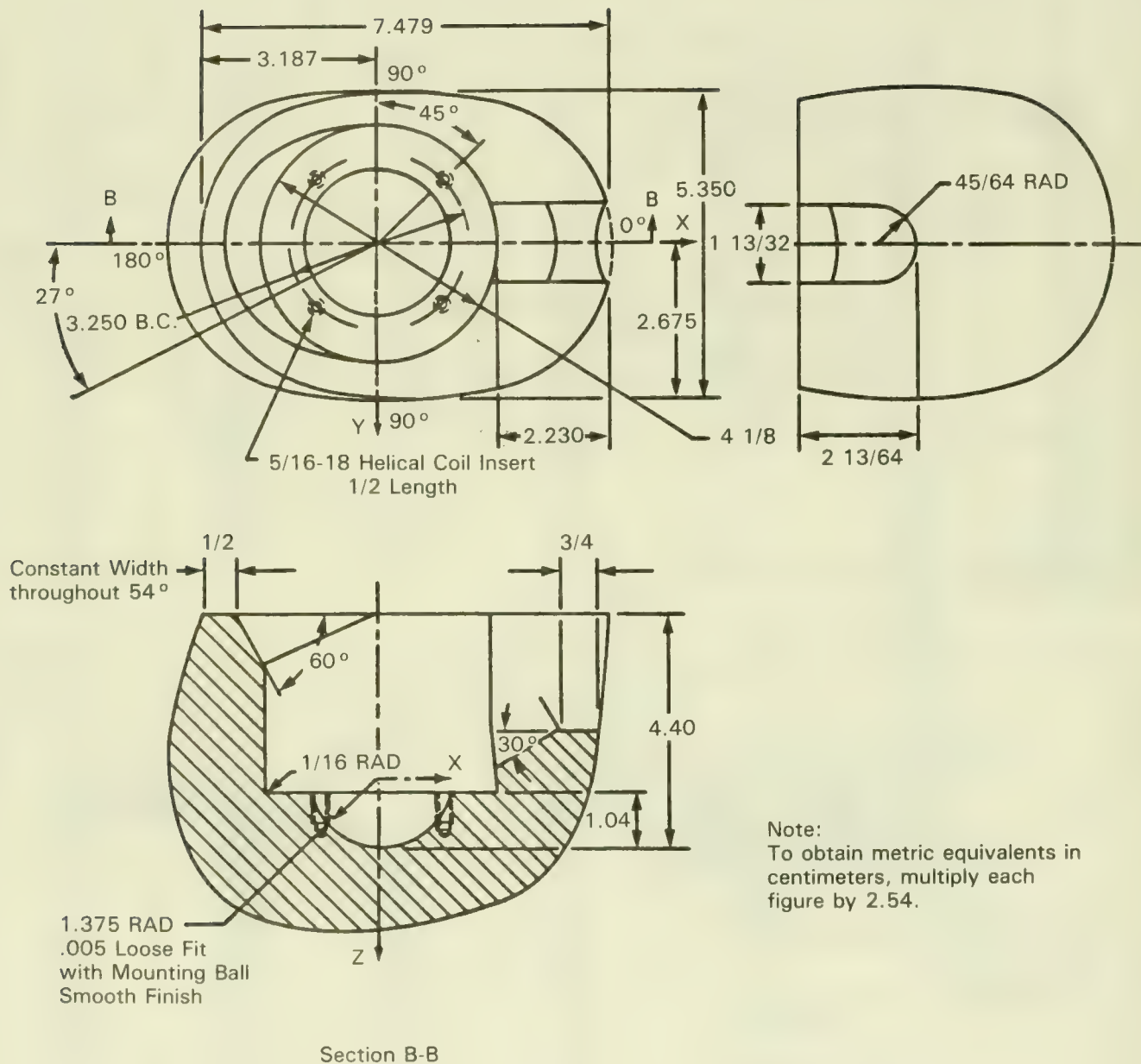


Figure 7. Medium Headform — Interior Design

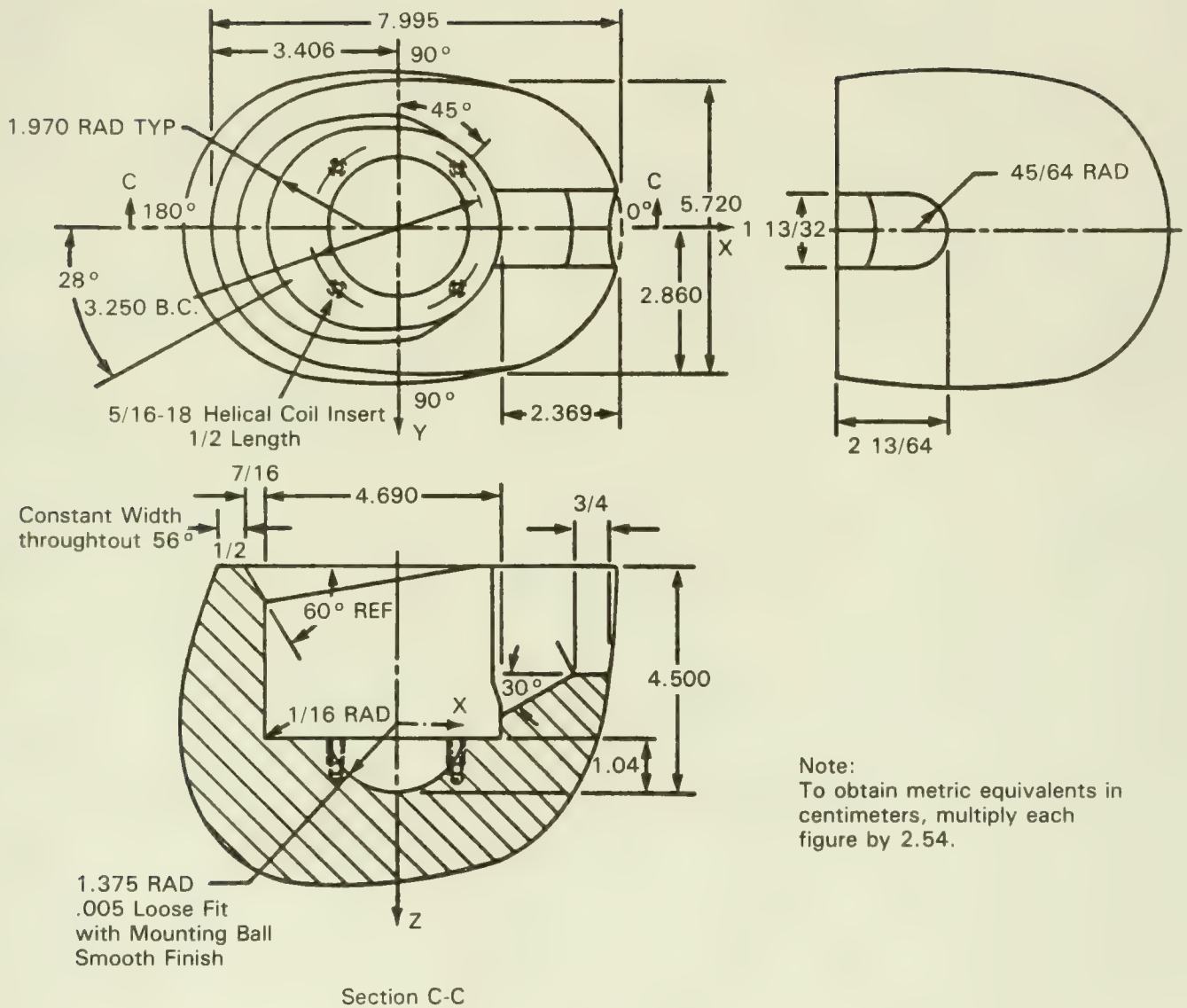


Figure 8. Large Headform - Interior Design

PREAMBLE TO MOTOR VEHICLE SAFETY STANDARD NO. 219

Windshield Zone Intrusion

(Docket No. 74-21; Notice 2)

This notice establishes a new Motor Vehicle Safety Standard No. 219, 49 CFR 571.219, that regulates the intrusion of vehicle parts from outside the occupant compartment into a defined zone in front of the windshield during a frontal barrier crash test.

The notice of proposed rulemaking on which this issuance is based was issued on May 20, 1974 (39 F.R. 17768). An earlier notice had been issued on August 31, 1972 (37 F.R. 17763), proposing a standard that would prohibit penetration of the protected zone by any part of a vehicle outside of the occupant compartment during a 30-mph frontal impact into a fixed barrier. After further study and an analysis of comments submitted in response to that notice, the NHTSA determined that the initial rule was unnecessarily stringent since its near-total ban on intrusion had the effect of prohibiting entrance into the protected zone or contact with the windshield by small particles such as paint chips and glass which do not represent a danger to the vehicle occupants if they enter the zone and impact the windshield opening with a limited amount of force.

Consequently, in the notice published on May 20, 1974, the proposed standard on windshield zone intrusion was amended to permit penetration by particles, to a depth of no more than one-quarter inch into a styrofoam template in the shape of the protected zone and affixed to the windshield, during a 30-mph frontal barrier crash.

In addition, the amended proposal published May 20, 1974, provided that contact by vehicle parts with the windshield opening in the area below the protected zone, during a 30-mph barrier crash test, would not be prohibited provided

that the inner surface of that portion of the windshield is not penetrated. The procedure for determining the lower edge of the protected zone was also revised.

Standard No. 219, *Windshield Zone Intrusion*, reflects some minor changes incorporated for clarification following publication of the proposed rule on May 20, 1974. First, open-body-type vehicles with fold-down or removable windshields have been added to forward control vehicles as vehicle types to which the standard does not apply. A structurally unsupported windshield, essential to the utility of this vehicle type, typically does not remain in place during a 30-mph frontal barrier crash test, hence the test is impracticable for this type of vehicle.

In addition, the standard provides that its prohibitions against penetration by particles to a depth of more than one-quarter inch into the styrofoam template and penetration of the inner surface of the portion of the windshield below the protected zone do not apply to windshield molding and other components designed to be normally in contact with the windshield. This provision was contained in the proposed standard published August 31, 1972 but omitted from the proposal published May 20, 1974.

The standard as adopted also specifies that the 6.5-inch-diameter rigid sphere employed to determine the lower edge of the protected zone shall weigh 15 pounds, the approximate weight of the head and neck of an average driver or passenger.

Comments submitted by Wayne Corporation and Sheller-Globe Corporation, manufacturers of funeral coaches and ambulances, urged that the standard for windshield zone intrusion contain an exception for such vehicles in view of

the low incidence of accidents involving funeral coaches and ambulances, the low volume of production of such vehicles, and the high cost of barrier crash testing. The NHTSA has determined that these arguments are without merit. The manufacturers have presented no evidence to support the contention that funeral coaches and ambulances are involved in fewer accidents in proportion to their numbers than other vehicles. Furthermore, several comments criticizing the allegedly prohibitive costs of compliance with the standard appear to have erroneously assumed that every manufacturer must conduct barrier crash tests. The performance requirement for windshield zone intrusion is set out in S5. of the standard. A manufacturer of funeral coaches and ambulances may, for example, assure itself that the requirement is met by barrier crashing the conventional chassis which is a component of the special vehicle, modified to simulate the dynamic characteristics of the funeral coach or ambulance. Or, the manufacturer may use the design characteristic of the vehicle taking into account the modifications it makes, or information supplied by the chassis manufacturer.

Low volume of production is not an appropriate basis for an exemption. As the NHTSA has maintained in past proceedings where the same argument was advanced, the appropriate means to avoid application of a standard on

hardship grounds is a temporary exemption under 49 CFR Part 555.

Finally, the NHTSA is continuing to promote compatibility and economy in barrier crash testing by adopting vehicle loading and dummy restraint requirements in Standard No. 219 identical to those set out in proposed amendments to Standard No. 301, *Fuel System Integrity*, 49 CFR 571.301 (40 F.R. 17036, April 16, 1975). It has therefore required that 50th-percentile test dummies be placed in the seating positions whose restraint system is required to be tested by a dummy under Standard No. 208, *Occupant Crash Protection*, 49 CFR 571.208, and that they may be restrained only by the means that are installed in the vehicle at the respective seating positions.

In consideration of the foregoing, 49 CFR Part 571 is amended by the addition of a new Standard No. 219, 49 CFR 571.219, *Windshield Zone Intrusion*. . . .

Effective date: September 1, 1976.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 C.F.R. 1.51.)

Issued on June 9, 1975.

James B. Gregory
Administrator

40 F.R. 25462
June 16, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 219

Windshield Zone Intrusion

(Docket No. 74-21; Notice 3)

This notice responds to four petitions for reconsideration of the notice published June 16, 1975 (40 FR 25462), which established a new Motor Vehicle Safety Standard No. 219, *Windshield Zone Intrusion*, 49 CFR 571.219, regulating the intrusion of vehicle parts from outside the occupant compartment into a defined zone in front of the windshield during a frontal barrier crash test. The National Highway Traffic Safety Administration (NHTSA) hereby amends Standard No. 219 on the basis of the information and arguments presented by some of the petitioners.

Petitions for reconsideration were received from the Motor Vehicle Manufacturers Association (MVMA), General Motors, Ford, and Jeep. MVMA, General Motors, and Ford requested substitution of the term "daylight opening" for "windshield opening," and General Motors and Jeep requested a change in the effective date of Standard No. 219 from September 1, 1976 to September 1, 1977. In addition, Jeep requested that Standard No. 219 not become applicable until final issuance of Standard No. 212, *Windshield Mounting*, 49 CFR 571.212.

The NHTSA has determined that the petitions of MVMA, General Motors, and Ford requesting substitution of the term "daylight opening" for "windshield opening" have merit, and they are therefore granted. These petitioners requested that the term "windshield opening" be replaced by the term "daylight opening", which is defined in paragraph 2.3.12 of section E, Ground Vehicle Practice, SAE Aerospace-Automotive Drawing Standards, September, 1963. The part of the windshield below the daylight opening is protected by the cowl and instrument panel. There is little likelihood that

in a frontal crash any vehicle component will penetrate the cowl and instrument panel with sufficient force to pose a threat to the vehicle occupants. Therefore, the zone intrusion requirements of Standard No. 219 should only apply to the area of the windshield susceptible to actual penetration by vehicle components in a crash. Accordingly, the term "windshield opening" as it is used in Standard No. 219, is replaced by "daylight opening." The SAE definition of "daylight opening" has been slightly modified to reflect the particular characteristics of Standard No. 219.

The NHTSA has concluded that the petitions of General Motors and Jeep requesting a change in the effective date of Standard No. 219 should be granted in part and denied in part. The economic considerations involved in coordinating the effective date of Standard No. 219 with that of Standard No. 212, *Windshield Mounting*, justify postponement of the effective date to September 1, 1977, for application of Standard No. 219 to all vehicles except passenger cars. However, the effective date of September 1, 1976, will be retained for passenger cars because of their greater susceptibility to the intrusion of vehicle parts against which this standard is designed to protect. This postponement of effective dates also grants in part Jeep's petition requesting that the applicability of Standard No. 219 be postponed until final issuance of Standard No. 212.

In consideration of the foregoing, § 571.219 is amended by revising S4., S5., and S6.1(d) of Standard No. 219, *Windshield Zone Intrusion*, to read as follows:

Effective date: September 1, 1976, for passenger cars; September 1, 1977, for multipurpose

Effective: September 1, 1976
September 1, 1977

passenger vehicles, trucks, and buses with a GVWR of 10,000 pounds or less.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.51.)

Issued on November 10, 1975.

James B. Gregory
Administrator

40 F.R. 53033
November 14, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 219

Windshield Zone Intrusion

(Docket No. 74-21; Notice 5)

This notice amends Standard No. 219, *Windshield Zone Intrusion*, to exclude walk-in van-type vehicles from the requirements of the standard.

The National Highway Traffic Safety Administration (NHTSA) proposed to exclude walk-in van-type vehicles from the applicability of Standard No. 219 (49 CFR 571.219) in a notice published March 11, 1976 (41 FR 10451). No opposition was registered in response to the proposed rulemaking. The National Motor Vehicle Safety Advisory Council did not take a position on the proposal.

The NHTSA, therefore, amends Standard No. 219 in accordance with the proposal. For the information of all interested persons, the NHTSA considers a "walk-in van-type" vehicle to be only the "step van" city delivery type of vehicle that permits a person to enter the vehicle without stooping.

It has been determined that this amendment will have a negligible economic and environ-

mental impact, since it creates an exemption from existing requirements that is expected to affect relatively few vehicles.

In consideration of the foregoing, paragraph S3 of Standard No. 219 (49 CFR 571.219) is amended

Effective date: December 16, 1976. Because this amendment relieves a restriction and does not create additional obligations for any person and because it permits the resumption of manufacture of a vehicle type not intended to be covered by the standard, it is found that an immediate effective date is in the public interest.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.50.)

Issued on December 10, 1976.

Charles E. Duke
Acting Administrator

41 FR 54945
December 16, 1976

PREAMBLE TO AN AMENDMENT TO FEDERAL MOTOR VEHICLE SAFETY STANDARD NO. 219

Windshield Zone Intrusion (Docket No. 79-14; Notice 2)

ACTION: Final Rule.

SUMMARY: This notice amends two safety standards, Standard No. 212, *Windshield Mounting*, and Standard No. 219, *Windshield Zone Intrusion*, to limit the maximum unloaded vehicle weight at which vehicles must be tested for compliance with these standards. This action is being taken in response to petitions from the Truck Body and Equipment Association and the National Truck Equipment Association asking the agency to amend the standards to provide relief from some of the test requirements for final-stage manufacturers. Many of these small manufacturers do not have the sophisticated test devices of major vehicle manufacturers. The agency concludes that the weights at which vehicles are tested can be lessened while providing an adequate level of safety for vehicles such as light trucks and while ensuring that compliance with these standards does not increase their aggressivity with respect to smaller vehicles.

EFFECTIVE DATE: Since this amendment relieves a restriction by easing the existing test procedure and will not impose any additional burdens upon any manufacturer, it is effective (upon publication).

FOR FURTHER INFORMATION CONTACT:

Mr. William Smith, Crashworthiness Division,
National Highway Traffic Safety Administration,
400 Seventh Street, S.W.,
Washington, D.C. 20590 (202-426-2242)

SUPPLEMENTARY INFORMATION:

On August 2, 1979, the National Highway Traffic Safety Administration published a notice of proposed rulemaking (44 FR 45426) relating to two safety standards: Standard Nos. 212, *Windshield*

Mounting, and 219 *Windshield Zone Intrusion*. That notice proposed two options for amending the test procedures of the standards that were designed to ease the compliance burdens of small final-stage manufacturers.

The agency issued the proposal after learning that final-stage manufacturers were frequently unable to certify certain vehicles in compliance with these two safety standards. The problem arises because of weight and center of gravity restrictions imposed upon the final-stage manufacturer by the incomplete vehicle manufacturer. (The final-stage manufacturer typically purchases an incomplete vehicle from an incomplete vehicle manufacturer, usually Ford, General Motors or Chrysler.) The incomplete vehicle usually includes the windshield and mounting but does not include any body or work-performing equipment. Since the incomplete vehicle manufacturer installs the windshield, it represents to the final-stage manufacturer that the windshield will comply with the two subject safety standards. In making this representation, however, the incomplete vehicle manufacturer states that the representation is contingent on the final-stage manufacturer's adherence to certain restrictions. Any final-stage manufacturer that does not adhere to the restrictions imposed by the incomplete vehicle manufacturer must recertify the vehicle based upon its own information, analysis, or tests. The major restrictions imposed by the incomplete vehicle manufacturers on the final-stage manufacturer involve weight and center of gravity limitation. In many instances, these limitations have made it impossible for final-stage manufacturers either to rely on the incomplete vehicle manufacturer's certification or to complete vehicles on the same chassis that they were accustomed to using (prior to the extension of the two safety standards to these vehicle types). As a result, the final-stage manufacturer is faced either with buying

the same chassis as before and recertifying them or with buying more expensive chassis with higher GVWR's and less stringent weight and center of gravity limitations.

The agency has tried several different ways to alleviate this problem for the final-stage manufacturer. The NHTSA has met with representatives of the major incomplete vehicle manufacturers to encourage them to respond voluntarily by strengthening their windshield structures and reducing the restrictions that they currently impose upon final-stage manufacturers. The agency also discussed the possibility of its mandating these actions by upgrading Standards Nos. 212 and 219. Ford and General Motors indicated that the making of any major changes in these standards could lead to their deciding to discontinue offering chassis for use in the manufacturing of multi-stage vehicles. They said that such chassis were a very small percentage of their light truck sales and that, therefore, they would not consider it worth the cost to them to make any extensive modifications in their vehicles. NHTSA also asked the incomplete vehicle manufacturers to be sure that they have properly certified their existing vehicles and that they are not imposing unnecessarily restrictive limitations upon final-stage manufacturers. To this agency's knowledge, these vehicle manufacturers have neither undertaken any strengthening of their vehicles' windshield structures nor lessened any of their restrictions.

At the same time that the agency was made aware of the final-stage manufacturers' problems of certifying to these standards, the agency was becoming concerned about the possibility that compliance of some light trucks and vans with these standards might have made the vehicles more aggressive with respect to smaller passenger cars that they might impact. According to agency information, if these standards require a substantial strengthening of vehicle frames, the aggressivity of the vehicles is increased. Therefore, as a result of the agency's concern about aggressivity and its desire to address the certification problems of final-stage manufacturers in a manner that would not lead to a cessation of a chassis sales to those manufacturers, the agency issued the August 1979 proposal. The agency hoped that the proposal would allow and encourage incomplete vehicle manufacturers to reduce their

weight and center of gravity restrictions, thereby easing or eliminating the compliance test burdens of final-stage manufacturers. The agency believed that this could occur using either option, because either would result in vehicles being tested at lower weights. Currently vehicles are tested under both standards at their unloaded vehicle weights plus 300 pounds.

The first option would have required some vehicles whose unloaded vehicle weights exceeded 4,000 pounds to be tested by being impacted with a 4,000 pound moving barrier. The second option proposed by the agency would have required vehicles to be tested at their unloaded vehicle weight up to a maximum unloaded vehicle weight of 5,500 pounds. This option was suggested to the agency by several manufacturers and manufacturer representatives.

Comments on Notice

In response to the agency's notice, nine manufacturers and manufacturer representatives submitted comments. All of the commenters supported some action in response to the problems of final-stage manufacturers. Most of the commenters also suggested that the agency's second alternative solution was more likely to achieve reductions in the restrictions being imposed by incomplete vehicle manufacturers. The first option would have created a new, unproven test procedure, and manufacturers would have been cautious in easing center of gravity or weight restrictions based upon this test procedure. Accordingly, most commenters were not sure that the first option would achieve the desired results. The consensus was, therefore, that the second option should be adopted.

Some manufacturers recommended that both options be permitted allowing the manufacturer to decide how to test its vehicles. The agency does not agree with this recommendation. Not only would it be more difficult and expensive to enforce a standard that has alternative test procedures, but most manufacturers prefer the 5,500 pound weight limit option. The NHTSA concludes that as a result of the comments supporting the 5,500 pound maximum test weight, that this is an acceptable procedure for testing compliance with these two standards. Therefore, the standards are amended to incorporate this procedure.

The major incomplete vehicle manufacturers commenting on the notice suggested that testing vehicles at a maximum weight of 5,500 pounds might provide some immediate relief. None of the major incomplete vehicle manufacturers provided any information concerning how substantial that relief might be. Ford indicated that any relief might be limited.

The agency believes that the incomplete vehicle manufacturers must accept the responsibility for establishing reasonable restrictions upon their incomplete vehicles. The NHTSA has not been provided with sufficient evidence substantiating the statements of the incomplete vehicle manufacturers that their existing restrictions are reasonable. In fact, some evidence indicates that unnecessarily stringent restrictions are being imposed because incomplete vehicle manufacturers do not want to conduct the necessary testing to establish the appropriate weight and center of gravity restrictions. Since this amendment should reduce the severity of the test procedures, the agency concludes that incomplete vehicle manufacturers should immediately review their certification test procedures and reduce the restrictions being passed on to final-stage manufacturers.

Due to changes in the light truck market, there is reason to believe that the incomplete vehicle manufacturers will be more cooperative than when the agency spoke to them before beginning this rulemaking. At that time, light truck sales were still running well. Now that these sales are down, these manufacturers may be more solicitous of the needs of the final-stage manufacturers. If relief is not provided by the incomplete vehicle manufacturers, then the agency will consider taking additional steps, including the upgrading of Standards Nos. 212 and 219 as they apply to all light trucks.

General Motors (GM) questioned one of the agency's rationales for issuing the notice of proposed rulemaking. GM stated that the agency concludes that this action will provide a more appropriate level of safety for the affected vehicles while the initial extension of these standards to the affected vehicles provides, in GM's view, only a slight increase in the level of safety of the vehicles. GM indicates that since the application of these standards to the affected vehicles provides only slight benefits and since this amendment will

reduce those benefits, the standards should not apply to light trucks and vans. The agency disagrees with this suggestion.

The agency is currently reviewing the applicability of many of its safety standards to determine whether they ought to be extended to light trucks and other vehicles. Accident data clearly indicate the benefits that have resulted from the implementation of safety standards to cars. The fatality rate for passenger cars has decreased substantially since the implementation of a broad range of safety standards to those vehicles. On the other hand, light trucks and vans have not had a corresponding reduction in fatality rates over the years. The agency attributes much of this to the fact that many safety standards have not been applied to those vehicles. Since those vehicles are becoming increasingly popular as passenger vehicles, the agency concludes that safety standards must apply to them.

In response to GM's comment that this reduction in the test requirements for Standard Nos. 212 and 219 will remove all benefits derived by having the standards apply to those vehicles, the agency concludes that GM has misinterpreted the effects of this amendment. This amendment will reduce somewhat the compliance test requirements for those light trucks and vans with unloaded vehicle weights in excess of 5,500 pounds. It will not affect light trucks with unloaded vehicle weights below 5,500 pounds. According to agency information, approximately 25 percent of the light trucks have unloaded vehicle weights in excess of 5,500 while the remainder fall below that weight. As a result of weight reduction to improve fuel economy, it is likely that even more light trucks will fall below the 5,500 pound maximum test weight in the future. Therefore, this amendment will have no impact upon most light trucks and vans. In light of the small proportion of light trucks and vans affected by this amendment and considering the potential benefits of applying these standards to all light trucks and vans, the agency declines to adopt GM's suggestion that the standards be made inapplicable to these vehicles.

With respect to GM's question about the appropriate level of safety for light trucks, the agency's statement in the notice of proposed rulemaking was intended to show that the safety of light trucks and vans cannot be viewed without considering the relative safety of lighter vehicles

that they may impact. Accordingly, the level of safety that the agency seeks to achieve by this and other safety standards is determined by balancing the interests of the occupants of passenger cars and heavier vehicles.

GM also questioned the agency's statement that vehicle aggressivity may be increased by imposing too severe requirements on these vehicles. GM suggested that no evidence exists that vehicle aggressivity is increased as a result of complying with these standards.

The agency stated in the proposal that it was concerned that compliance with the standards as they now exist might have increased the aggressivity of the vehicles, thereby harming the occupants of passenger cars that are impacted by these larger, more rigid vehicles. The agency is now beginning to examine the full range of vehicle aggressivity problems. The docket for this notice contains a paper recently presented by a member of our staff to the Society of Automotive Engineers on this subject. The agency tentatively concludes, based upon the initial results of our research and analysis, that vehicle aggressivity could be a safety problem and that the agency considers that possibility in issuing its safety standards. The NHTSA notes that Volkswagen applauds the agency's recognition of the vehicle aggressivity factor in safety.

As to GM's argument that compliance with the standards may not have increased vehicle aggressivity, our information on this point came from the manufacturers. The manufacturers indicated that compliance with Standards 212 and 219 requires strengthening the vehicle frame. This makes a vehicle more rigid. Our analysis indicates that making a vehicle more rigid may also make it more aggressive. Therefore, the agency concludes partially on the basis of the manufacturer's information, that compliance with the safety standards as they are written may have increased the aggressivity of the vehicles.

Ford Motor Company suggested that, rather than change these two particular standards, the agency should amend the certification regulation (Part 568) to state that any vehicle that is barrier tested would be required only to comply to an unloaded vehicle weight of 5,500 pounds or less. Ford suggested that this would standardize all of the tests and provide uniformity.

The agency is unable to accept Ford's recommendation for several reasons. First, the certification regulation is an inappropriate place to put a test requirement applicable to several standards. The tests' requirements of the standards should be found in each standard. Second, the Ford recommendation would result in a reduction of the level of safety currently imposed by Standard No. 301, *Fuel System Integrity*.

As we stated earlier and in several other notices, the agency is legislatively forbidden to modify Standard No. 301 in a way that would reduce the level of safety now required by that standard. Even without this legislative mandate, the agency would not be likely to relieve the burdens imposed by Standard No. 301. That standard is extremely important for the prevention of fires during crashes. Compliance of a vehicle with this standard not only protects the occupants of the vehicle that is in compliance but also protects the occupants of vehicles that it impacts. The agency concludes that the standard now provides a satisfactory level of safety in vehicles, and NHTSA would not be likely to amend it to reduce these safety benefits even if such an amendment were possible.

With respect to fuel system integrity, several manufacturers suggested that the agency had underestimated the impact of that standard upon weight and center of gravity restrictions. These commenters indicated that compliance with that standard requires more than merely adding shielding to the fuel systems of the vehicles. The agency is aware that compliance with that standard in certain instances has imposed restrictions upon manufacturers. Nonetheless, the agency continues to believe that as a result of this amendment, the chassis manufacturers will be able to reduce their weight and center of gravity restrictions while still maintaining the compliance of their vehicles with Standard No. 301.

Chrysler commented that the agency should consider including the new test procedure in Standard No. 204 and all other standards that require barrier testing. The agency has issued a notice on Standard No. 204 (44 FR 68470) stating that it was considering a similar test provision for that standard. The agency also is aware that any barrier test requirement imposed upon vehicles subject to substantial modifications by final-stage

manufacturers will create problems for the final-stage manufacturers. Accordingly, the agency will consider the special problems of these manufacturers prior to the issuance of standards that might affect them and will attempt to make the test requirements of the various standards consistent wherever possible.

The agency has reviewed this amendment in accordance with Executive Order 12044 and concludes that it will have no significant economic or other impact. Since the regulation relieves some testing requirements, it may slightly reduce costs associated with some vehicles. Accordingly, the agency concludes that this is not a significant amendment and a regulatory analysis is not required.

In accordance with the foregoing, Volume 49 of the Code of Federal Regulations Part 571 is

amended by adding the following sentence to the end of paragraph S6.1(b) of Standard No. 212 (49 CFR 571.212) and paragraph S7.7(b) of Standard No. 219 (49 CFR 571.219).

Vehicles are tested to a maximum unloaded vehicle weight of 5,500 pounds.

The authors of this notice are William Smith of the Crashworthiness Division and Roger Tilton of the Office of Chief Counsel.

Issued on March 28, 1980.

Joan Claybrook
Administrator

45 F.R. 22044
April 3, 1980

MOTOR VEHICLE SAFETY STANDARD NO. 219

Windshield Zone Intrusion

S1. Scope. This standard specifies limits for the displacement into the windshield area of motor vehicle components during a crash.

S2. Purpose. The purpose of this standard is to reduce crash injuries and fatalities that result from occupants contacting vehicle components displaced near or through the windshield.

S3. Application. This standard applies to passenger cars and to multipurpose passenger vehicles, trucks and buses of 10,000 pounds or less gross vehicle weight rating. However, it does not apply to forward control vehicles, walk-in van-type vehicles, or to open body-type vehicles with fold-down or removable windshields.

S4. Definitions.

"Daylight Opening" (DLO) means the maximum unobstructed opening through the glazing surface, including reveal or garnish moldings adjoining the surface, as measured parallel to the outer surface of the glazing material.

"Windshield opening" means the outer surface of the windshield glazing material.

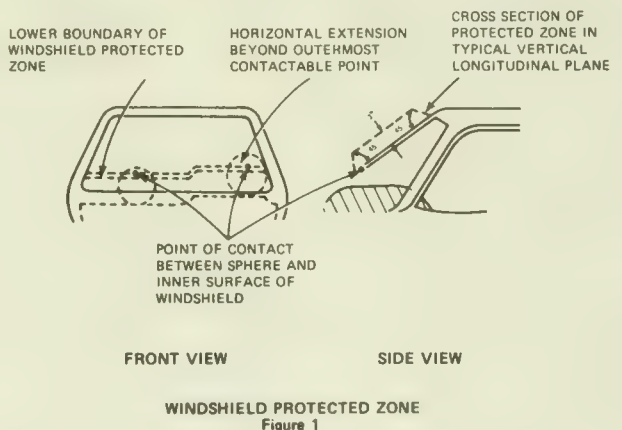
S5. Requirement. When the vehicle traveling longitudinally forward at any speed up to and including 30 mph impacts a fixed collision barrier that is perpendicular to the line of travel of the vehicle, under the conditions of S7, no part of the vehicle outside the occupant compartment, except windshield molding and other components designed to be normally in contact with the windshield, shall penetrate the protected zone template, affixed according to S6, to a depth of more than one-quarter inch, and no such part of a vehicle shall penetrate the inner surface of

that portion of the windshield, within the DLO, below the protected zone defined in S6.

S6. Protected zone template.

S6.1 The lower edge of the protected zone is determined by the following procedure (see Figure 1).

(a) Place a 6.5-inch diameter rigid sphere, weighing 15 pounds, in a position such that it simultaneously contacts the inner surface of the



windshield glazing and the surface of the instrument panel, including padding. If any accessories or equipment such as the steering control system obstruct positioning of the sphere, remove them for the purposes of this procedure.

(b) Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend

the locus line horizontally to the edges of the glazing material.

(c) Draw a line on the inner surface of the windshield below and one-half inch distant from the locus line.

(d) The lower edge of the protected zone is the longitudinal projection onto the outer surface of the windshield of the line determined in S6.1(c).

S6.2 The protected zone is the space enclosed by the following surfaces, as shown in Figure 1:

(a) The outer surface of the windshield in its precrash configuration.

(b) The locus of points 3 inches outward along perpendiculars drawn to each point on the outer surface of the windshield.

(c) The locus of lines forming a 45° angle with the outer surface of the windshield at each point along the top and side edges of the outer surface of the windshield and the lower edge of the protected zone determined in S6.1, in the plane perpendicular to the edge at that point.

S6.3 A template is cut or formed from Styrofoam, type DB, cut cell, to the dimensions of the zone as determined in S6.2. The template is affixed to the windshield so that it delineates the protected zone and remains affixed throughout the crash test.

S7. Test conditions. The requirement of S5 shall be met under the following conditions:

S7.1 The protected zone template is affixed to the windshield in the manner described in S6.

S7.2 The hood, hood latches, and any other hood retention components are engaged prior to the barrier crash.

S7.3 Adjustable cowl tops or other adjustable panels in front of the windshield are in the position used under normal operating conditions when windshield wiping systems are not in use.

S7.4 The parking brake is disengaged and the transmission is in neutral.

S7.5 Tires are inflated to the vehicle manufacturer's specifications.

S7.6 The fuel tank is filled to any level from 90 to 95 percent of capacity.

S7.7 The vehicle, including test devices and instrumentation, is loaded as follows:

(a) Except as specified in S7.6, a passenger car is loaded to its unloaded vehicle weight plus its rated cargo and luggage capacity weight, secured in the luggage area, plus a 50th-percentile test dummy as specified in Part 572 of this chapter at each front outboard designated seating position and at any other position whose protection system is required to be tested by a dummy under the provisions of Standard No. 208. Each dummy is restrained only by means that are installed for protection at its seating position.

(b) Except as specified in S7.6, a multipurpose passenger vehicle, truck or bus is loaded to its unloaded vehicle weight, plus 300 pounds or its rated cargo and luggage capacity, whichever is less, secured to the vehicle, plus a 50th-percentile test dummy as specified in Part 572 of this chapter at each front outboard designated seating position and at any other position whose protection system is required to be tested by a dummy under the provisions of Standard No. 208. Each dummy is restrained only by means that are installed for protection at its seating position. The load is distributed so that the weight on each axle as measured at the tire-ground interface is in proportion to its GAWR. If the weight on any axle when the vehicle is loaded to its unloaded vehicle weight plus dummy weight exceeds the axle's proportional share of the test weight, the remaining weight is placed so that the weight on that axle remains the same. For the purposes of this section, unloaded vehicle weight does not include the weight of workperforming accessories.

40 F.R. 25462
June 18, 1975

PREAMBLE TO MOTOR VEHICLE SAFETY STANDARD NO. 220

School Bus Rollover Protection

(Docket No. 75-2; Notice 2)

This notice establishes a new motor vehicle safety Standard No. 220, *School Bus Rollover Protection*, 49 CFR 571.220, specifying performance requirements for the structural integrity of the passenger compartment of school buses when subjected to forces that can be encountered in rollovers.

The Motor Vehicle and Schoolbus Safety Amendments of 1974 (the Act) mandate the issuance of Federal motor vehicle safety standards for several aspects of school bus performance, including crashworthiness of the vehicle body and frame. Pub. L. 93-942, section 202 (15 U.S.C. 1392(i)(1)(A)). Based on this mandate and on bus body crashworthiness research (DOT-HS-046-3-694), the NHTSA proposed rollover protection requirements for school buses (40 F.R. 8570, February 28, 1975). Citing statistics on the safety record of school bus operation, several manufacturers questioned whether any standard for school bus rollover protection could be justified.

The Act reflects a need, evidenced in correspondence to the NHTSA from the public, to protect the children who ride in school buses. They and their parents have little direct control over the types of vehicles in which they ride to school, and are not in a position to determine the safety of the vehicles. It is for this reason that the school bus standards must be effective and meaningful.

At the same time, the safety history of school buses does not demonstrate that radical modification of school bus structure would substantially decrease occupant death and injury. As noted in the "School Bus Safety Improvement Program" contract conducted by Ultrasonics, Inc., (DOT-HS-046-3-694) for the NHTSA:

"School buses are a relatively safe mode of human transportation. School bus accident rates and injury/fatality rates on a per-vehicle, per-vehicle-mile, per-passenger-mile, or per-passenger basis are significantly less than for other passenger vehicles. Accidents to school children while enroute to and from school occur primarily in modes other than as school bus passengers. However, school bus safety can and should be improved."

As a practical matter, the amount of structural modification called for in this standard is also limited as a result of the 9-month lead time available to implement the provisions of each school bus standard after its promulgation. The various new requirements imposed in response to the mandate of the Act will require considerable effort by school bus manufacturers to bring their products into conformity in the 9-month period.

The Physicians for Automotive Safety, The National Transportation Safety Board, the Home Insurance Company and other commenters suggested that the NHTSA had ignored the recommendations of the report submitted by Ultrasonics on school bus improvement. The report concluded that the improved school bus design tested by Ultrasonics could withstand a significantly greater load for the same amount of roof crush than existing school bus designs.

In fact, the NHTSA evaluated the test results and Ultrasonics' recommendations carefully. While the percentage of reduction of roof crush would be substantial as a result of the recommended design change, no relationship of this decrease in deflection to improved safety for occupants was established. Ultrasonics reported that increases of \$500 in cost and 530 pounds were incurred to achieve several improve-

ments, including those of the vertical roof crush test.

The recommendations also implied increased structural rigidity but did not evaluate its effect on the amount of energy absorbed by vehicle occupants in a crash. Also, Ultrasystems, did not consider the problems of lead time and retooling costs in making its recommendations. The NHTSA continues to consider that its proposal of $5\frac{1}{8}$ inches of maximum roof crush under a load equal to $1\frac{1}{2}$ times the vehicle's unloaded weight provides a satisfactory level of occupant crash protection. Available data do not support the conclusion that a 2- or 3-inch reduction of this crush would significantly improve the level of passenger safety in school buses. It is the intention of the NHTSA to continually review accident statistics relating to school bus safety. Accordingly, future upgrading of the standard will be considered should such action be warranted based upon availability of appropriate data.

In response to inquiries from the Motor Vehicle Manufacturers Association and General Motors as to the origin of the $5\frac{1}{8}$ -inch requirement, the limit is drawn from the existing School Bus Manufacturers Institute requirement for school bus structural integrity (Static Load Test Code for School Bus Body Structure, issued by the School Bus Manufacturers Institute).

In adopting the $5\frac{1}{8}$ -inch limit found in the present industry standard, the NHTSA is not merely preserving the status quo. While a manufacturer may have designed its products to meet the industry standard in the past, certain of its products presumably performed either better or worse than the nominal design. Conformity to NHTSA standards, in contrast, requires that every vehicle be capable of meeting the $5\frac{1}{8}$ -inch limit. This means that the manufacturer must design its vehicles to meet a higher level of performance, to provide a compliance margin for those of its products which fall below the nominal design level. Of course, the manufacturer can reduce the compliance-margin problem without redesign by improving the consistency of its manufacturing processes.

The standard requires that, upon the application of vertical downward force to the bus roof equal to $1\frac{1}{2}$ times the vehicle's unloaded weight,

the vehicle roof shall not crush more than $5\frac{1}{8}$ inches, and the emergency exits shall be capable of being opened, with the weight applied, and after its release. The National Transportation Safety Board, the Vehicle Equipment Safety Commission (VESC), Mercedes-Benz, and the Action for Child Transportation Safety organization suggested other methods for evaluation of crashworthiness. The NHTSA has considered these, but concludes that the static test specified in this standard provides a reasonable means to determine crashworthiness without unnecessary testing expense.

Based on submitted comments, the standard varies in some respects from the proposal. The sizes of the force application plates used to apply force and the method of application have been revised to simplify the test procedures and equipment, and to spread the force over larger areas of the vehicle roofs of large and small vehicles. The proposal specified a rigid, rectangular force application plate 36 inches wide and 20 inches shorter than the vehicle roof, preventing reliance on the roof end structures for rollover protection in typical body-on-chassis construction. Commenters pointed out that the end structures of the roof are almost certain to bear the weight of a rollover and should be included in a test of a vehicle's crashworthiness. Several manufacturers and other commenters recommended an increase in the size of the force application plate, in order to permit the foremost and rearmost roof "bows" of their buses to absorb a portion of the test load. Ford Motor Company stated it had performed the test as proposed and asserted that the roof of its van-type vehicle, as presently designed could not meet the requirement without an increase in the size of the force application plate to distribute the load over the entire vehicle roof. Chrysler Corporation stated it would find it necessary to discontinue production of small school buses because of redesign costs if the requirements were adopted as proposed.

With a view to the safety record of school buses and the 9-month lead time, the NHTSA concludes that the force application plate can be modified so that an additional "bow" or "bows" bear part of the applied force. It is the NHTSA's view that a change to permit both

roof end structures to fully contribute to support of the applied force in the case of buses of more than 10,000 pounds would be a relaxation of current industry practices. Accordingly, the extent of change recommended by the industry is not adopted. The NHTSA concludes that an 8-inch increase in the length of the force application plate is sufficient to allow some portion of the applied force to be absorbed by the end bows of the roof while maintaining adequate crash protection. Therefore, for these buses the width of the plate remains as proposed while the length of the plate is increased 8 inches.

In the case of lighter buses, which are generally of the van type, the NHTSA has increased both the width and length of the plate to encompass the entire roof.

The procedure for applying force through the plate has also been modified in some respects. Many comments objected that the procedure required an expensive, complex hydraulic mechanism that would increase the costs of compliance without justification. The proposal specified an "evenly-distributed vertical force in a downward direction through the force application plate", starting with the plate horizontal. Commenters interpreted these specifications to mean that the vehicle would be required to absorb the energy in evenly-distributed fashion and that the horizontal attitude of the plate must be maintained.

Actually these specifications were included in the proposed method to advise manufacturers of the precise procedures to be employed in compliance testing of their products. Understanding that some manufacturers may choose to achieve the required force application by applying weights evenly over the surface of the plate, the standard specified an "evenly-distributed force" to eliminate other methods (such as a concentrated force at one end of the plate) that could unfairly test the vehicle structure. The horizontal attitude of the plate was also intended to establish a beginning point for testing on which a manufacturer can rely. While these specifications establish the exact circumstances under which vehicles can be tested, a manufacturer can depart from them as long as it can be shown that the vehicle would comply if tested exactly as specified. In place of the perfectly rigid plate called for in the standard, for example, a manu-

facturer could employ a plate of sufficient stiffness to ensure that the test results are not affected by the lack of rigidity.

Some modification of the test procedures has been made for simplification and clarity. To permit placement of the plate on the roof to begin testing without a suspension mechanism, the specification for horizontal attitude is modified to permit the plate to depart from the horizontal in the fore and aft direction only. Some manufacturers considered the initial application of force as an unnecessary complication. However, the initial force application of 500 pounds has been retained in order to permit elimination of inconsequential deformation of the roof structure prior to measurement of the permissible $5\frac{1}{8}$ inches of deflection. In instances where the force application plate weighs more than 500 pounds, some type of suspension mechanism could be used temporarily to constrain the load level to the initial value, if the manufacturer decides to conduct his testing exactly as specified in the standard's procedures.

The requirement that force be applied "through the plate" has been changed to "to the plate" in order to avoid a misunderstanding that the vehicle must absorb energy evenly over the surface of its roof.

As proposed by several commenters, the rate of application in pounds per minute has been changed to inches per second, specifically "at any rate not more than $\frac{1}{2}$ inch per second." Manufacturers should understand that "any" in this context is defined by the NHTSA (49 CFR § 571.4) to mean that the vehicle roof must satisfy the requirement at every rate of application within the stated range. General Motors reports that as a practical matter, the effect of speed in rate of application for tests of this nature is not significant in the range of 0.12 inches per second to 1 inch per second.

The requirement that movement "at any point" on the plate not exceed $5\frac{1}{8}$ inches has not been modified despite some objections. The NHTSA considers it reasonable that excessive crush not be permitted at the extremities of the plate. Measurement of movement only at the center of the plate, for example, would permit total collapse of the structure in any direction as long as one point on the bus maintained its integrity.

The preparation of the vehicle for the application of force has been modified to specify replacement of non-rigid body mounts with equivalent rigid mounts. The compression of deformable body mounts is unrelated to crash-worthiness of the structure and can therefore be eliminated to permit testing of the structure itself.

Accessories or components which extend upward from the vehicle's roof (such as school bus lights) are removed for test purposes. It is also noted that the vehicle's transverse frame members or body sills are supported for test purposes. In response to a question from Blue Bird Body Company, a frame simulator may be used along with any other variations as long as the manufacturer assures himself that the vehicle would conform if tested precisely as specified in the standard.

The vehicle's emergency exits must also be capable of opening when the required force is applied, and following release of the force. As noted in comments, this requirement simulates the use of the exits after a rollover, whether or not the vehicle comes to rest on its roof. The proposed requirement of ability to close these exits is eliminated because such a capability is unnecessary in an emergency evacuation of the bus. For this reason, the requirement has been modified so that a particular test specimen (*i.e.*, a particular bus) will not be required to meet requirements for emergency exits which open following release of force, if the exits have already been tested while the application force is maintained.

With regard to the requirements as a whole, Crown Coach and other manufacturers argued that the application of $1\frac{1}{2}$ times the vehicle's unloaded weight unfairly discriminates against buses with a higher vehicle weight-to-passenger ratio. The NHTSA disagrees, and notes that the relevant consideration in rollover is the weight of the vehicle itself in determining the energy to be absorbed by the structure. In a related area, one manufacturer suggested that the increased weight of the NHTSA's contemplated new standards for school buses would increase unloaded vehicle weight to the point where redesign would be required to meet the rollover standard. The NHTSA has considered this

issue and estimates that the only significant new weight would be for improved seating. This weight increase would not substantially increase the severity of the rollover standard.

The State of California suggested consolidation of the rollover standard with the joint strength. While such a consolidation would appear logical for school buses alone, the NHTSA prefers the flexibility of separate standards with a view to their use independently in the future for other vehicle types. For example, the application of vertical force to the vehicle structure may be appropriate in a vehicle for which the joint strength requirement would not be appropriate.

The State of Georgia requested that transit systems transporting school children be exempted from Standard No. 220. This commenter apparently misunderstood the applicability of the standard. It only applies to newly-manufactured vehicles and does not require modification of existing fleets, whether or not operated by a transit authority.

Interested persons should note that the NHTSA has issued a proposal to modify the definition of "school bus" (40 F.R. 40854, September 1, 1975) and that if that definition is adopted the requirements of this standard will apply to all vehicles that fall within the definition, whether or not they fall within the present definition.

In consideration of the foregoing, a new motor vehicle safety standard No. 220, *School Bus Rollover Protection*, is added as § 571.220 of Part 571 of Title 49, Code of Federal Regulations. . . .

Effective date: October 26, 1976.

The effective date of this standard is established as 9 months after the date of its issuance, as required by the Motor Vehicle and Schoolbus Safety Amendments of 1974, Pub. L. 93-492, section 202 (15 U.S.C. 1397(i)(1)(A)).

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); § 202, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegation of authority at 49 CFR 1.51)

Issued on January 22, 1976.

Howard J. Dugoff
Acting Administrator
41 F.R. 3874
January 27, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 220

School Bus Rollover Protection

(Docket No. 73-3; Notice 7)

(Docket No. 73-20; Notice 10)

(Docket No. 73-34; Notice 4)

(Docket No. 75-2; Notice 3)

(Docket No. 75-3; Notice 5)

(Docket No. 75-7; Notice 3)

(Docket No. 75-24; Notice 3)

This notice announces that the effective dates of the redefinition of "school bus" and of six Federal motor vehicle safety standards as they apply to school buses are changed to April 1, 1977, from the previously established effective dates. This notice also makes a minor amendment to Standard No. 220, *School Bus Rollover Protection*, and adds a figure to Standard No. 221, *School Bus Body Joint Strength*.

The Motor Vehicle and Schoolbus Safety Amendments of 1974 (the Act) mandated the issuance of Federal motor vehicle safety standards for several aspects of school bus performance, Pub. L. 93-492, § 202 (15 U.S.C. § 1392 (i)(1)(A)). These amendments included a definition of school bus that necessitated a revision of the existing definition used by the NHTSA in establishing safety requirements. The Act also specified that the new requirements "apply to each school bus and item of school bus equipment which is manufactured . . . on or after the expiration of the 9-month period which begins on the date of promulgation of such safety standards." (15 U.S.C. § 1392(i)(1)(B)).

Pursuant to the Act, amendments were made to the following standards: Standard No. 301-75, *Fuel System Integrity* (49 CFR 571.301-75), effective July 15, 1976, for school buses not already covered by the standard (40 FR 483521, October 15, 1975); Standard No. 105-75, *Hydraulic Brake Systems* (49 CFR 571.105-75), effective October 12, 1976 (41 FR 2391, January

16, 1976); and Standard No. 217, *Bus Window Retention and Release* (49 CFR 571.217), effective for school buses on October 26, 1976 (41 FR 3871, January 27, 1976).

In addition, the following new standards were added to Part 571 of Title 49 of the Code of Federal Regulations, effective October 26, 1976: Standard No. 220, *School Bus Rollover Protection* (41 F.R. 3874, January 27, 1976); Standard No. 221, *School Bus Body Joint Strength* (41 F.R. 3872, January 26, 1976); and Standard No. 222, *School Bus Passenger Seating and Crash Protection* (41 F.R. 4016, January 28, 1976). Also, the existing definition of "school bus" was amended, effective October 27, 1976, in line with the date set by the Act for issuance of the standards.

The Act was recently amended by Public Law 94-346 (July 8, 1976) to change the effective dates of the school bus standards to April 1, 1977 (15 U.S.C. § 1392(i)(1)(B)). This notice is intended to advise interested persons of these changes of effective dates. In the case of Standard No. 301-75, the change of effective date is reflected in a conforming amendment to S5.4 of that standard. A similar amendment is made in S3 of Standard No. 105-75.

The agency concludes that the October 27, 1976, effective date for the redefinition of "school bus" should be postponed to April 1, 1977, to conform to the new effective dates for the upcoming requirements. If this were not done, the new classes

of school buses would be required to meet existing standards that apply to school buses (e.g., Standard No. 108 (49 CFR 571.108)) before being required to meet the new standards. This would result in two stages of compliance, and would complicate the redesign efforts that Congress sought to relieve.

This notice also amends Standard No. 220 in response to an interpretation request by Blue Bird Body Company, and Sheller-Globe Corporation's petition for reconsideration of the standard. Both companies request confirmation that the standard's requirement to operate emergency exits during the application of force to the vehicle roof (S4(b)) does not apply to roof exits which are covered by the force application plate. The agency did not intend to require the operation of roof exits while the force application plate is in place on the vehicle. Accordingly, an appropriate amendment has been made to S4(b) of the standard.

With regard to Standard No. 220, Sheller-Globe also requested confirmation that, in testing its school buses that have a gross vehicle weight rating (GVWR) of 10,000 pounds or less, it may test with a force application plate with dimensions other than those specified in the standard. The standard does not prohibit a manufacturer from using a different dimension from that specified, in view of the NHTSA's expressed position on the legal effect of its regulations. To certify compliance, a manufacturer is free to choose any means, in the exercise of due care, to show that a vehicle (or item of motor vehicle equipment) would comply if tested by the NHTSA as specified in the standard. Thus the force application plate used by the NHTSA need not be duplicated by each manufacturer or compliance test facility. Sheller-Globe, or example, is free to use a force application plate of any width as long as it can certify its vehicle would comply if tested by the NHTSA according to the standard.

In a separate area, the agency corrects the inadvertent omission of an illustration from Standard No. 221 as it was issued January 26, 1976 (41 F.R. 3872). The figure does not differ from that proposed and, in that form, it received no adverse comment.

In accordance with recently enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 F.R. 16200, April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this action on the public and private sectors, including possible loss of safety benefits. The changes in effective dates for the school bus standards are not evaluated because they were accomplished by law and not by regulatory action.

The change of effective date for the redefinition of "school bus" will result in savings to manufacturers who will not be required to meet existing school bus standards between October 27, 1976, and April 1, 1977. The agency calculates that the only standard that would not be met would be the requirement in Standard No. 108 for school bus marker lamps. In view of the agency's existing provision for the marking of light school buses in Pupil Transportation Standard No. 17 (23 CFR 1204), it is concluded that the absence of this equipment until April 1, 1977, will not have a significant adverse impact on safety.

The interpretative amendment of Standard No. 220 and the addition of a figure to Standard No. 221 are not expected to affect the manufacture or operation of school buses.

In consideration of the foregoing, Part 571 of Title 49 of the Code of Federal Regulations is amended. . . .

Effective dates:

1. Because the listed amendments do not impose additional requirements of any person, the National Highway Traffic Safety Administration finds that an immediate effective date of August 26, 1976 is in the public interest.

2. The effective date of the redefinition of "school bus" in 49 CFR Part 571.3 that was published in the issue of December 31, 1976 (40 F.R. 60033) is changed to April 1, 1977.

3. The effective dates of Standard Nos. 105-75, 217, 301-75, 220, 221, and 222 (as they apply to school buses) are April 1, 1977, in accordance with Public Law 94-346.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718
(15 U.S.C. 1392, 1407); Pub. L. 94-346, Stat. (15
U.S.C. § 1392(i) (1) (B)); delegation of authority
at 49 CFR 1.50.)

Issued on August 17, 1976.

John W. Snow
Administrator

41 F.R. 36027
August 26, 1976

MOTOR VEHICLE SAFETY STANDARD NO. 220

School Bus Rollover Protection

S1. Scope. This standard establishes performance requirements for school bus rollover protection.

S2. Purpose. The purpose of this standard is to reduce the number of deaths and the severity of injuries that result from failure of the school bus body structure to withstand forces encountered in rollover crashes.

S3. Applicability. This standard applies to school buses.

S4. Requirements. When a force equal to $1\frac{1}{2}$ times the unloaded vehicle weight is applied to the roof of the vehicle's body structure through a force application plate as specified in S5., Test procedures—

(a) The downward vertical movement at any point on the application plate shall not exceed $5\frac{1}{8}$ inches; and

(b) Each emergency exit of the vehicle provided in accordance with Standard No. 217 (§ 571.217) shall be capable of opening as specified in that standard during the full application of the force and after release of the force, except that an emergency exit located in the roof of the vehicle is not required to be capable of being opened during the application of the force. A particular vehicle (*i.e.*, test specimen) need not meet the emergency opening requirement after release of force if it is subjected to the emergency exit opening requirements during the full application of the force.

S5. Test procedures. Each vehicle shall be capable of meeting the requirements of S4. when tested in accordance with the procedures set forth below.

S5.1 With any non-rigid chassis-to-body mounts replaced with equivalent rigid mounts,

place the vehicle on a rigid horizontal surface so that the vehicle is entirely supported by means of the vehicle frame. If the vehicle is constructed without a frame, place the vehicle on its body sills. Remove any components which extend upward from the vehicle roof.

S5.2 Use a flat, rigid, rectangular force application plate that is measured with respect to the vehicle roof longitudinal and lateral centerlines;

(a) In the case of a vehicle with a GVWR of more than 10,000 pounds, 12 inches shorter than the vehicle roof and 36 inches wide; and

(b) In the case of a vehicle with a GVWR of 10,000 pounds or less, 5 inches longer and 5 inches wider than the vehicle roof. For purposes of these measurements, the vehicle roof is that structure, seen in the top projected view, that coincides with the passenger and driver compartment of the vehicle.

S5.3 Position the force application plate on the vehicle roof so that its rigid surface is perpendicular to a vertical longitudinal plane and it contacts the roof at not less than two points, and so that, in the top projected view, its longitudinal centerline coincides with the longitudinal centerline of the vehicle, and its front and rear edges are an equal distance inside the front and rear edges of the vehicle roof at the centerline.

S5.4 Apply an evenly-distributed vertical force in the downward direction to the force application plate at any rate not more than 0.5 inch per second, until a force of 500 pounds has been applied.

S5.5 Apply additional vertical force in the downward direction to the force application plate at a rate of not more than 0.5 inch per second

until the force specified in S4 has been applied, and maintain this application of force.

S5.6 Measure the downward movement of any point on the force application plate which occurred during the application of force in accordance with S5.5.

S5.7 To test the capability of the vehicle's emergency exits to open in accordance with S4(b)—

(a) In the case of testing under the full application of force, open the emergency exits as specified in S4(b) while maintaining the force applied in accordance with S5.4 and S5.5; and

(b) In the case of testing after the release of all force, release all downward force applied to the force application plate and open the emergency exits as specified in S4(b).

S6. Test conditions. The following conditions apply to the requirements specified in S4.

S6.1 Temperature. The ambient temperature is any level between 32° F. and 90° F.

S6.2 Windows and doors. Vehicle windows, doors, and emergency exits are in fully-closed position, and latched but not locked.

41 F.R. 3874

January 27, 1976

PREAMBLE TO MOTOR VEHICLE SAFETY STANDARD NO. 221

School Bus Body Joint Strength

(Docket No. 73-34; Notice 3)

This notice establishes a new motor vehicle safety standard, No. 221; *School Bus Body Joint Strength*, 49 CFR 571.221, specifying a minimum performance level for school bus body panel joints.

The Motor Vehicle and Schoolbus Safety Amendments of 1974 (Pub. L. 93-492, 88 Stat. 1470, herein, the Act) require the issuance of minimum requirements for school bus body and frame crashworthiness. This rulemaking is pursuant to authority vested in the Secretary of Transportation by the Act and delegated to the Administrator of the NHTSA, and is preceded by notices of proposed rulemaking issued January 29, 1974 (39 F.R. 2490) and March 13, 1975 (40 F.R. 11738).

One of the significant injury-producing characteristics of school bus accidents, exposure to sharp metal edges, occurs when body panels become separated from the structural components to which they have been fastened. In an accident severe lacerations may result if the occupants of the bus are tossed against these edges. Moreover, if panel separation is great the component may be ejected from the vehicle, greatly increasing the possibility of serious injury.

This standard is intended to lessen the likelihood of these modes of injury by requiring that body joints on school buses have a tensile strength equal to 60 percent of the tensile strength of the weakest joined body panel, as suggested by the Vehicle Equipment Safety Commission (VESC). The NHTSA has determined that this is an appropriate level of performance for body joints and that its application to school buses is both reasonable and practicable. Furthermore, the NHTSA believes that adoption

of this standard will provide an effective and meaningful solution to the body panel problem.

It is anticipated that this rule will burden manufacturers only to the extent of requiring the installation of more rivets than are currently used. The NHTSA has reviewed the economic and environmental impact of this proposal and determined that neither will be significant.

In their response to the two NHTSA proposals on this subject, several of the commenters suggested that the standard could be met by reducing the strength of the panel rather than increasing the strength of the joint, and that a minimum joint strength should be required. For several reasons the NHTSA does not believe that a minimum absolute joint strength is desirable at this time. While this standard will tend to increase the overall strength of buses, it is not designed to set minimum body panel strength requirements. Its purpose is to prevent panels from separating at the joint in the event of an accident. In order to deal with the problem of laceration, this regulation must be applicable to both exterior and interior joints. An absolute minimum joint strength requirement would be constrained by the level of performance appropriate for the relatively thin interior panels. Thus, the overall level of performance could not be defined in a meaningful fashion without severely and unnecessarily limiting the manufacturer's flexibility in designing his product. The NHTSA School Bus Rollover Protection Standard (49 CFR 571.220), which specifies requirements for the structural integrity of school bus bodies, should result in a practical lower limit on panel strength and thereby set a practical absolute minimum joint strength.

The NHTSA has no evidence that the mode of failure found in the larger traditional school buses also occurs in smaller, van-type school buses currently manufactured by automobile manufacturers for use as 11- to 17-passenger school buses. Ford Motor Company commented that the mode of injury sought to be prevented by this standard does not occur in accidents involving school buses converted from multipurpose passenger vehicles (vans). Chrysler Corporation suggested that the proposed requirement is inappropriate when applied to vans with "coach" joint construction. Based on these comments, the NHTSA has determined that until information to the contrary appears or is developed these vehicles should not be covered by the requirement. Accordingly, the application of the standard has been limited to school buses with a gross vehicle weight rating over 10,000 pounds.

Several commenters suggested that certain types of joints might not be susceptible of testing in the manner specified in this regulation. Up to this time the NHTSA has not found sufficient evidence in support of that position to justify amending the standard. If information is re-

ceived indicating that different test methods are required for certain applications, appropriate action will be initiated.

In consideration of the foregoing, a new motor vehicle safety standard, No. 221, *School Bus Body Joint Strength*, is added as § 571.221 of Part 571 of Title 49, Code of Federal Regulations, as set forth below.

Effective date: October 26, 1976.

The effective date of this standard is 9 months after the date of issuance, as required by the Motor Vehicle and Schoolbus Safety Amendments of 1974, Pub. L. 93-492, section 202 (15 U.S.C. 1397(i)(1)(A)).

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); § 202, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegation of authority at 49 CFR 1.50.)

Issued on January 22, 1976.

Howard J. Dugoff
Acting Administrator

41 F.R. 3872
January 27, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 221

School Bus Body Joint Strength

(Docket No. 73-3; Notice 7)

(Docket No. 73-20; Notice 10)

(Docket No. 73-34; Notice 4)

(Docket No. 75-2; Notice 3)

(Docket No. 75-3; Notice 5)

(Docket No. 75-7; Notice 3)

(Docket No. 75-24; Notice 3)

This notice announces that the effective dates of the redefinition of "school bus" and of six Federal motor vehicle safety standards as they apply to school buses are changed to April 1, 1977, from the previously established effective dates. This notice also makes a minor amendment to Standard No. 220, *School Bus Rollover Protection*, and adds a figure to Standard No. 221, *School Bus Body Joint Strength*.

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The agency concludes that the October 27, 1976, effective date for the redefinition of "school bus" should be postponed to April 1, 1977, to conform

to the new effective dates for the upcoming requirements. If this were not done, the new classes of school buses would be required to meet existing standards that apply to school buses (e.g., Standard No. 108 (49 CFR 571.108)) before being required to meet the new standards. This would result in two stages of compliance, and would complicate the redesign efforts that Congress sought to relieve.

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In a separate area, the agency corrects the inadvertent omission of an illustration from Standard No. 221 as it was issued January 26, 1976 (41 F.R. 3872). The figure does not differ from that proposed and, in that form, it received no adverse comment.

In accordance with recently enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 F.R. 16200, April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this action on the public and private sectors, including possible loss of safety benefits. The changes in effective dates for the school bus standards are not evaluated because they were accomplished by law and not by regulatory action.

The change of effective date for the redefinition of "school bus" will result in savings to manufacturers who will not be required to meet existing school bus standards between October 27, 1976, and April 1, 1977. The agency calculates that the only standard that would not be met would be the requirement in Standard No. 108 for school bus marker lamps. In view of the agency's existing provision for the marking of light school buses in Pupil Transportation Standard No. 17 (23 CFR 1204), it is concluded that the absence of this equipment until April 1, 1977, will not have a significant adverse impact on safety.

The interpretative amendment of Standard No. 220 and the addition of a figure to Standard No. 221 are not expected to affect the manufacture or operation of school buses.

In consideration of the foregoing, Part 571 of Title 49 of the Code of Federal Regulations is amended. . . .

Effective dates:

1. Because the listed amendments do not impose additional requirements of any person, the National Highway Traffic Safety Administration finds that an immediate effective date of August 26, 1976 is in the public interest.

2. The effective date of the redefinition of "school bus" in 49 CFR Part 571.3 that was published in the issue of December 31, 1976 (40 F.R. 60033) is changed to April 1, 1977.

3. The effective dates of Standard Nos. 105-75, 217, 301-75, 220, 221, and 222 (as they apply to school buses) are April 1, 1977, in accordance with Public Law 94-346.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718
(15 U.S.C. 1392, 1407); Pub. L. 94-346, Stat. (15
U.S.C. § 1392(i) (1) (B)); delegation of authority
at 49 CFR 1.50).

Issued on August 17, 1976.

John W. Snow
Administrator

41 F.R. 36027
August 26, 1976

MOTOR VEHICLE SAFETY STANDARD NO. 221

School Bus Body Joint Strength

S1. Scope. This standard establishes requirements for the strength of body panel joints in school bus bodies.

S2. Purpose. The purpose of this standard is to reduce deaths and injuries resulting from the structural collapse of school bus bodies during crashes.

S3. Application. This standard applies to school buses with gross vehicle weight ratings of more than 10,000 pounds.

S4. Definitions.

"Body component" means a part of a bus body made from a single piece of homogeneous material or from a single piece of composite material such as plywood.

"Body panel" means a body component used on the exterior or interior surface to enclose the bus' occupant space.

"Body panel joint" means the area of contact or close proximity between the edges of a body panel and another body component, excluding spaces designed for ventilation or another functional purpose, and excluding doors, windows, and maintenance access panels.

"Bus body" means the portion of a bus that encloses the bus' occupant space, exclusive of the bumpers, the chassis frame, and any structure forward of the forwardmost point of the windshield mounting.

S5. Requirement. When tested in accordance with the procedure of S6, each body panel joint shall be capable of holding the body panel to the member to which it is joined when subjected to a force of 60% of the tensile strength of the weakest joined body panel determined pursuant to S6.2.

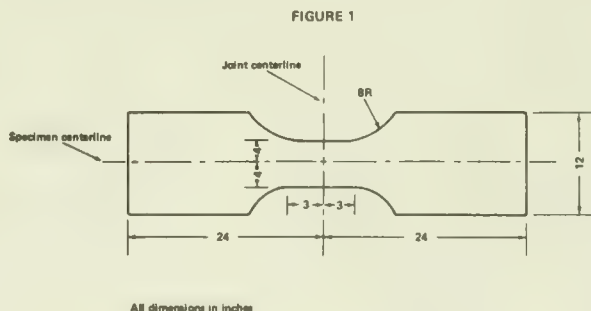
S6. Procedure.

S6.1 Preparation of the test specimen.

S6.1.1 If a body panel joint is 8 inches long or longer, cut a test specimen that consists of any randomly selected 8-inch segment of the joint, together with a portion of the bus body whose dimensions, to the extent permitted by the size of the joined parts, are those specified in Figure 1, so that the specimen's centerline is perpendicular to the joint at the midpoint of the joint segment. Where the body panel is not fastened continuously, select the segment so that it does not bisect a spot weld or a discrete fastener.

S6.1.2 If a joint is less than 8 inches long, cut a test specimen with enough of the adjacent material to permit it to be held in the tension testing machine specified in S6.3.

S6.1.3 Prepare the test specimen in accordance with the preparation procedures specified in the 1973 edition of the Annual Book of ASTM Standards, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.



S6.2 Determination of minimum allowable strength. For purposes of determining the minimum allowable joint strength, determine the tensile strengths of the joined body components as follows:

(a) If the mechanical properties of a material are specified by the American Society for Testing and Materials, the relative tensile strength for such a material is the minimum tensile strength specified for that material in the 1973 edition of the Annual Book of ASTM Standards.

(b) If the mechanical properties of a material are not specified by the American Society for Testing and Materials, determine its tensile strength by cutting a specimen from the bus body outside the area of the joint and by testing it in accordance with S6.3.

S6.3 Strength test.

S6.3.1 Grip the joint specimen on opposite sites of the joint in a tension testing machine calibrated in accordance with Method E4, Verification of Testing Machines, of the American Society for Testing and Materials (1973 Annual Book of ASTM Standards).

S6.3.2 Adjust the testing machine grips so that the joint, under load, will be in stress approximately perpendicular to the joint.

S6.3.3 Apply a tensile force to the specimen by separating the heads of the testing machine at any uniform rate not less than $\frac{1}{8}$ inch and not more than $\frac{3}{8}$ inch per minute until the specimen separates.

41 F.R. 3872
January 27, 1976

PREAMBLE TO MOTOR VEHICLE SAFETY STANDARD NO. 222

School Bus Seating and Crash Protection

(Docket No. 73-3; Notice 5)

This notice establishes a new motor vehicle safety Standard No. 222, *School Bus Seating and Crash Protection*, that specifies seating, restraining barrier, and impact zone requirements for school buses.

The Motor Vehicle and Schoolbus Safety Amendments of 1974, Pub. L. 93-492, directed the issuance of a school bus seating systems performance standard (and other standards in seven areas of vehicle performance). The NHTSA had already issued two proposals for school bus seating systems prior to enactment of the 1974 Safety Amendments (the Act) (38 F.R. 4776, February 22, 1973) (39 F.R. 27585, July 30, 1974) and subsequently published two additional proposals (40 F.R. 17855, April 23, 1975) (40 F.R. 47141, October 8, 1975). Each aspect of the requirements was fully considered in the course of this rulemaking activity. Comments received in response to the most recent proposal were limited to a few aspects of the Standard.

The largest number of comments were received on the requirement that school bus passenger seats be equipped with seat belt anchorages at each seating position. The standard relies on compartmentalization between well-padded and well-constructed seats to provide occupant protection on school buses (other than van-type buses). At the same time, seat belt anchorages were proposed so that a greater measure of protection could be gained if a particular user chose to use the anchorages by installation of seat belts together with a system to assure that seat belts would be worn, properly adjusted, and not misused.

Bus operators strongly expressed the view that the presence of seat belt anchorages would encourage the installation of seat belts by school

districts without providing the necessary supervision of their use. This association of school bus operators (National School Transportation Association) also questioned the benefits that would be derived from anchorage installation as long as their utilization is not required. In view of these factors, and the indications that in any event only a small fraction of school buses would have belts installed and properly used, the NHTSA concludes that the proposed seat belt anchorage requirement should not be included in this initial school bus seating standard. Further study of the extent to which belts would be installed and properly used should permit more certainty as the basis for any future action.

NHTSA calculations demonstrate that the strength characteristics of the seat specified by the standard to provide the correct amount of compartmentalization also provide the strength necessary to absorb seat belt loads. This means that an operator or school district may safely attach seat belts to the seat frame, even where anchorages are not installed as original equipment. The seat is strong enough to take the force of occupants against the seat back if no belts are utilized, or the force of occupants against seat belts if occupants are restrained by belts attached to the seat frame through the anchorages provided.

The Physicians for Automotive Safety (PAS) requested that lap belts be required in addition to the compartmentalization offered by the seating systems. The agency concluded earlier in this rulemaking procedure that compartmentalization provides satisfactory protection and that a requirement for belts without the assurance of proper supervision of their use would not be an effective means of providing occupant protection.

PAS has not provided data or arguments that would modify this conclusion, and its request is therefore denied.

PAS, relying on testing undertaken at the University of California at Los Angeles in 1967 and 1969, argued that a vertical seat back height of 24 inches above the seating reference point (SRP) is necessary to afford adequate protection against occupant injury. The NHTSA, as noted in its fourth notice of school bus crash protection, based its 20-inch requirement on newer data generated in dynamic and static testing by AMF Corporation of prototype seats designed to meet the proposed requirements of the standard ("Development of a Unitized School Bus", DOT-HS-400969). While the NHTSA does not dispute that a properly constructed, higher seat back provides more protection than a lower seat back, the data support the agency's determination that the 20-inch seat back provides a reasonable level of protection. School bus accident data do not provide substantial evidence of a whiplash injury experience that could justify a 4-inch increase in seat back height. For this reason, the seat back height is made final as proposed.

Several commenters objected to applicability of the standard to school buses with a gross vehicle weight rating (GVWR) of 10,000 pounds or less (light school buses), asserting that the special requirements of the standard for those buses were inappropriate, or unachievable within the 9-month leadtime for compliance mandated by the Act.

Chrysler Corporation requested exclusion of light school buses from this standard for an indefinite period, and Ford Motor Company requested that essentially the same package of standards as already are provided in its van-type multi-purpose passenger vehicles and school bus models be required in the future, with no additional protection. Both companies believe that the relatively small numbers of their vehicles sold as school buses would have to be withdrawn from the market because of the expense of tooling new seating that offers more crash protection than present seating. Wayne Corporation manufactures a light school bus that is not based on a van-type vehicle, and requested that seats used

in its larger models be permitted in smaller models, along with seat belts that comply with Standard No. 209.

The Congressional direction to issue standards for school bus seating systems (15 U.S.C. § 1392(i)(1)(A)(iv)) implies that existing seating and occupant crash protection standards are insufficient for vehicles that carry school children. The NHTSA has proposed a combination of requirements for light school buses that differ from those for heavier buses, because the crash pulse experienced by smaller vehicles is more severe than that of larger vehicles in similar collisions. The standard also specifies adequate numbers of seat belts for the children that the vehicle would carry, because such restraints are necessary to provide adequate crash protection in small vehicles. The requirements applicable to light school buses are considered reasonable, and are therefore included in the final rule as proposed.

In Wayne's case, it is not clear why the seat it has developed for heavier school buses will not serve in its smaller school buses. Seat belts may need to be attached to the floor to support the force specified by Standard No. 210 for anchorages. Also, some interior padding may be necessary to meet the vehicle impact zone requirements of S5.3.1.1(a).

Sheller-Globe Corporation (Sheller) and Wayne considered unreasonable the standard's limitation on maximum distance between a seat's SRP and the rear surface of the seat or restraining barrier forward of the SRP (S5.2). The limitation exists to minimize the distance an occupant travels before forward motion is arrested by the padded structure that compartmentalizes the occupant. The two bus manufacturers contend that they must also comply with State requirements for a minimum distance between seats that results in only 1 inch of tolerance in seating placement.

Section 103(d) of the National Traffic and Motor Vehicle Safety Act provides in part:

(d) Whenever a Federal motor vehicle safety standard . . . is in effect, no State or political subdivision of a State shall have any authority either to establish or continue in effect, with respect to any motor vehicle or item of motor vehicle equipment any safety standard appli-

cable to the same aspect of performance of such vehicle or item of equipment which is not identical to the Federal standard.

It is the opinion of the NHTSA that any State requirement relating to seat spacing, other than one identical to the Federal requirement for maximum spacing of 20 inches from the SRP, is preempted under § 103(d), 15 U.S.C. § 1392(d).

Sheller advocated wider seat spacing for activity buses, because seats are occupied for longer periods of time on road trips. The NHTSA, noting that activity buses are often used on the open highway at high speeds for long periods of time, requests comments on the advisability of specifying a seat belt requirement in place of the seat spacing requirement in the case of these buses.

Much of Sheller and Wayne's concern over tolerances may stem from a misunderstanding of the meaning of "seating reference point" (SRP). As defined by the NHTSA (49 CFR 571.3), the SRP is essentially the manufacturer's design reference point which simulates the pivot center of the human torso and thigh, located in accordance with the SAE Standard J826. Thus the manufacturer calculates, on its seat design seen in side projected view, the pivot center of the human torso and thigh of the potential seat occupant, and then establishes a design reference point that simulates the location of the actual pivot center. The NHTSA has interpreted that this design reference point may be fixed by the manufacturer with reference to the seating structure to simplify calculation of its location in a bus for purposes of measurement and compliance.

Sheller also requested that the "seat performance forward" testing be simplified by eliminating the 8-inch range of locations at which the lower loading bar can be applied against the seat back. As noted in the preamble to Notice 4 of this docket in response to a similar request from Blue Bird Body Company, the NHTSA declines to make this restriction, to discourage the addition of a narrow 2-inch wide structural member at this point simply to meet the requirement. This reasoning remains valid and Sheller's request is denied.

Sheller also asked that the requirement for forward-facing seats be eliminated from the standard, in view of the practice of installing side-facing seats in some buses for handicapped students. The NHTSA designed the seating system in this standard for protection from fore and aft crash forces, and considers it necessary that the seats be forward-facing to achieve the objective of occupant protection. Comments are solicited on whether the provision of this protection in special vehicles is impractical.

The Vehicle Equipment and Safety Commission (VESC) asked for a minimum seat width of 13 inches for each designated seating position, noting that the standard's formula permits seating of 12.67 inches in width. The agency does not believe its standard will encourage seats narrower than those presently provided in school buses, but will watch for any indication that that is occurring. Action can be taken in the future if it appears that seating is being designed to be narrower than at present.

In consideration of the foregoing, a new motor vehicle safety Standard No. 222, *School Bus Seating and Crash Protection*, is added as § 571.222, of Part 571 of Title 49, Code of Federal Regulations. . . .

Effective date: October 26, 1976. The effective date of this standard is established as 9 months after the date of its issuance, as required by the Motor Vehicle and Schoolbus Safety Amendments of 1974, Pub. L. 93-492, section 202 (15 U.S.C. 1397(i)(1)(A)).

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); § 202, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegation of authority at 49 CFR 1.50).

Issued on January 22, 1976.

Howard J. Dugoff
Acting Administrator

41 F.R. 4016
January 28, 1976

<p>1. The first part of the document discusses the importance of maintaining accurate records of all transactions.</p>	<p>2. The second part of the document discusses the importance of maintaining accurate records of all transactions.</p>
<p>3. The third part of the document discusses the importance of maintaining accurate records of all transactions.</p>	<p>4. The fourth part of the document discusses the importance of maintaining accurate records of all transactions.</p>
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<p>13. The thirteenth part of the document discusses the importance of maintaining accurate records of all transactions.</p>	<p>14. The fourteenth part of the document discusses the importance of maintaining accurate records of all transactions.</p>
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<p>17. The seventeenth part of the document discusses the importance of maintaining accurate records of all transactions.</p>	<p>18. The eighteenth part of the document discusses the importance of maintaining accurate records of all transactions.</p>
<p>19. The nineteenth part of the document discusses the importance of maintaining accurate records of all transactions.</p>	<p>20. The twentieth part of the document discusses the importance of maintaining accurate records of all transactions.</p>

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 222

School Bus Seating and Crash Protection

(Docket No. 73-3; Notice 6)

This notice responds to two petitions for reconsideration of Standard No. 222, *School Bus Passenger Seating and Crash Protection*, as it was issued January 22, 1976.

Standard No. 222 (49 CFR 571.222 was issued January 22, 1976 (41 F.R. 4016, January 28, 1976), in accordance with § 202 of the Motor Vehicle and Schoolbus Safety Amendments of 1974, Pub. L. 93-492 (15 U.S.C. § 1392(i)(1)) and goes into effect on October 26, 1976. The standard provides for compartmentalization of bus passengers between well-padded and well-constructed seats in the event of collision. Petitions for reconsideration of the standard were received from Sheller-Globe Corporation and from the Physicians for Automotive Safety (PAS), which also represented the views of Action for Child Transportation Safety, several adult individuals, and several school bus riders.

PAS expressed dissatisfaction with several aspects of the standard. The organization objected most strongly to the agency's decision that seat belts should not be mandated in school buses. PAS disagreed with the agency conclusion (39 F.R. 27585, July 30, 1974) that, whatever the potential benefits of safety belts in motor vehicle collisions, the possibility of their non-use or misuse in the hands of children makes them impractical in school buses without adequate supervision. In support of safety belt installation, PAS cited statistics indicating that 23 percent of reported school bus accidents involve a side impact or rollover of the bus.

While safety belts presumably would be beneficial in these situations, PAS failed to provide evidence that the belts, if provided, would be properly utilized by school-age children. The agency will continue to evaluate the wisdom of

its decision not to mandate belts, based on any evidence showing that significant numbers of school districts intend to provide the supervision that should accompany belt use. In view of the absence of evidence to date, however, the agency maintains its position that requiring the installation of safety belts on school bus passenger seats is not appropriate and denies the PAS petition for reconsideration. The agency continues to consider the reduced hostility of improved seating to be the best reasonable form of protection against injury.

PAS asked that a separate standard for seat belt assembly anchorages be issued. They disagree with the agency's conclusion (41 F.R. 4016) that seat belt anchorages should not be required because of indications that only a small fraction of school buses would have belts installed and properly used. However, PAS failed to produce evidence that a substantial number of school buses would be equipped with safety belts, or that steps would be taken to assure the proper use of such belts. In the absence of such information, the agency maintains its position that a seat belt anchorage requirement should not be included in the standard at this time, and denies the PAS petition for reconsideration.

The NHTSA does find merit in the PAS concern that in the absence of additional guidance, improper safety belt installation may occur. The Administration is considering rulemaking to establish performance requirements for safety belt anchorages and assemblies when such systems are installed on school bus passenger seats.

PAS also requested that the seat back height be raised from the 20-inch level specified by the standard to a 24-inch level. In support of this position, the organization set forth a "common

sense" argument that whiplash must be occurring to school bus passengers in rear impact. However, the agency has not been able to locate any quantified evidence that there is a significant whiplash problem in school buses. The crash forces imparted to a school bus occupant in rear impact are typically far lower than those imparted in a car-to-car impact because of the greater weight of the school bus. The new and higher seating required by the standard specifies energy absorption characteristics for the seat back under rear-impact conditions, and the agency considers that these improvements over earlier seating designs will reduce the number of injuries that occur in rear impact. For lack of evidence of a significant whiplash problem, the PAS petition for a 24-inch seat back is denied.

PAS believed that the States and localities that specify a 24-inch seat back height would be precluded from doing so in the future by the preemptive effect of Standard No. 222 under § 103(f) of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. § 1392(f)):

§ 103 * * * * *

(d) Whenever a Federal motor vehicle safety standard under this subchapter is in effect, no State or political subdivision of a State shall have any authority either to establish, or to continue in effect, with respect to any motor vehicle or item of motor vehicle equipment any safety standard applicable to the same aspect of performance of such vehicle or item of equipment which is not identical to the Federal standard. Nothing in this section shall be construed to prevent the Federal Government or the government of any State or political subdivision thereof from establishing a safety requirement applicable to motor vehicle equipment procured for its own use if such requirement imposes a higher standard of performance than that required to comply with the otherwise applicable Federal standard.

Standard No. 222 specifies a minimum seat back height (S5.1.2) which manufacturers may exceed as long as their product conforms to all other requirements of the standards applicable to school buses. It is the NHTSA's opinion that any State standard of general applicability concerning seat back height of school bus seating

would also have to specify a minimum height identical to the Federal requirement. Manufacturers would not be required to exceed this minimum. Thus, the PAS petition to state seat back height as a minimum is unnecessary and has already been satisfied, although it does not have the effect desired by the PAS.

With regard to the PAS concern that the States' seat height requirements would be preempted, the second sentence of § 103(d) clarifies that the limitation on safety regulations of general applicability does not prevent governmental entities from specifying additional safety features in vehicles purchased for their own use. Thus, a State or its political subdivisions could specify a seat back height higher than 20 inches in the case of public school buses. The second sentence does not permit these governmental entities to specify safety features that prevent the vehicle or equipment from complying with applicable safety standards.

With regard to which school buses qualify as "public school buses" that may be fitted with additional features, it is noted that the agency includes in this category those buses that are owned and operated by a private contractor under contract with a State to provide transportation for students to and from public schools.

Sheller-Globe Corporation (Sheller) petitioned for exclusion from the seating requirements for seating that is designed for handicapped or convalescent students who are unable to utilize conventional forward-facing seats. Typically, side-facing seats are installed to improve entry and egress since knee room is limited in forward-facing seats, or spaces on the bus are specifically designed to accommodate wheelchairs. The standard presently requires that bus passenger seating be forward-facing (S5.1) and conform to requirements appropriate for forward-facing seats. Blue Bird Body Company noted in a March 29, 1976, letter that it also considered the standard's requirements inappropriate for special seating.

The agency has considered the limited circumstances in which this seating would be offered in school buses and concludes that the seat-spacing requirement (S5.2) and the fore-and-aft seat performance requirements (S5.1.3, S5.1.4) are not

appropriate for side-facing seats designed solely for handicapped or convalescent students. Occupant crash protection is, of course, as important for these students as others, and the agency intends to establish requirements suited to these specialized seating arrangements. At this time, however, insufficient time remains before the effective date of this standard to establish different requirements for the seating involved. Therefore, the NHTSA has decided to modify its rule by the exclusion of side-facing seating installed to accommodate handicapped or convalescent passengers.

School bus manufacturers should note that the limited exclusion does not relieve them from providing a restraining barrier in front of any forward-facing seat that has a side-facing seat or wheelchair position in front of it.

Sheller also petitioned for a modification of the head protection zone (S5.3.1.1) that describes the space in front of a seating position where an occupant's head would impact in a crash. The outer edge of this zone is described as a vertical longitudinal plane 3.25 inches inboard of the outboard edge of the seat.

Sheller pointed out that van-type school buses utilize "tumble home" in the side of the vehicle that brings the bus body side panels and glazing into the head protection zone. As Sheller noted, the agency has never intended to include body side panels and glazing in the protection zone. The roof structure and overhead projections from the interior are included in this area of the zone. To clarify this distinction and account for the "tumble home," the description of the head impact zone in S5.3.1.1 is appropriately modified.

In accordance with recently enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 F.R. 16201; April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this action on the public and private sectors, including possible loss of safety benefits. The decision to withdraw requirements for side-facing seats used by handicapped or convalescent students will result in cost savings to manufacturers and pur-

chasers. The action may encourage production of specialized buses that would otherwise not be built if the seating were subject to the standard. Because the requirements are not appropriate to the orientation of this seating, it is estimated that no significant loss of safety benefits will occur as a result of the amendment. The exclusion of sidewall, window or door structure from the head protection zone is simply a clarification of the agency's longstanding intent that these components not be subject to the requirements. Therefore no new consequences are anticipated as a result of this amendment.

In an area unrelated to the petitions for reconsideration, the Automobile Club of Southern California petitioned for specification of a vandalism resistance specification for the upholstery that is installed in school buses in compliance with Standard No. 222. Data were submitted on experience with crash pads installed in school buses operated in California. Vandalism damage was experienced, and its cost quantified in the submitted data.

The Automobile Club made no argument that the damage to the upholstery presents a significant safety problem. While it is conceivable that removal of all padding from a seat back could occur and expose the rigid seat frame, the agency estimates that this would occur rarely and presumably would result in replacement of the seat. Because the agency's authority under the National Traffic and Motor Vehicle Safety Act is limited to the issuance of standards that meet the need for motor vehicle safety (15 U.S.C. § 1392(a)), the agency concludes that a vandalism resistance requirement is not appropriate for inclusion in Standard No. 222.

In light of the foregoing, Standard No. 222 (49 CFR 571.222) is amended. . . .

Effective date: October 26, 1976. Because the standard becomes effective on October 26, 1976, it is found to be in the public interest that an effective date sooner than 180 days is in the public interest. Changes in the text of the Code of Federal Regulations should be made immediately.

Effective: October 26, 1976

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.50.)

Issued on July 7, 1976.

James B. Gregory
Administrator

41 F.R. 28506
July 12, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 222

School Bus Seating and Crash Protection

(Docket No. 73-3; Notice 8)

This notice amends Standard No. 222, *School Bus Passenger Seating and Crash Protection*, to delay the effective date for maximum rearward deflection of seats from April 1, 1977, to April 1, 1978.

Standard No. 222 (49 CFR 571.222), as published January 28, 1976 (41 F.R. 4016), established October 27, 1976, as the effective date of the standard, as mandated by the Motor Vehicle and Schoolbus Safety Amendments of 1974 (the Act) (Pub. L. 93-492). Congress subsequently amended the Act by Public Law 94-346 (July 8, 1976) to extend the effective date for the implementation of school bus standards to April 1, 1977.

The NHTSA has promulgated regulations on several aspects of performance mandated by Congress in the Act. These regulations become effective on April 1, 1977. The agency concludes, however, that compliance with one provision of Standard No. 222 by the April 1, 1977, effective date would be impracticable, would result in substantial economic waste, and would not be in the public interest.

Since publication of Standard No. 222, a misunderstanding has arisen within the industry concerning the definition of the term "absorbed" when used in connection with the requirements in sections S5.1.3.4 and S5.1.4.2. The NHTSA explained the term "absorbed" in an interpretation to Thomas Built Buses (July 30, 1976) to mean "receive without recoil." This interpretation requires that returned energy be subtracted from total energy applied to the seat back to calculate energy "absorbed" by the seat back.

School bus manufacturers tested their seats in accordance with the NHTSA definition of "absorbed" and found that the seats continued to

comply with the requirements of Standard No. 222 when tested for forward performance (S5.1.3), but these same seats were marginally below the NHTSA requirements for rearward seat deflection. Based upon these test data, petitions have been received from Thomas Built Buses, Blue Bird Body Company, Carpenter Body Works, Wayne Corporation, and Ward School Bus Manufacturing, all requesting a change in rearward performance requirements.

The NHTSA has examined the data submitted by the manufacturers and concludes that the seats upon which the tests were made demonstrate a high probability of meeting most of the requirements of Standard No. 222. Further, the agency concludes that to mandate full compliance with the rearward performance requirements of Standard No. 222 would require extensive retooling and redesign. This could result in substantial economic waste of seats now in production and severe economic hardship for manufacturers.

The NHTSA is particularly concerned that to require full compliance with the rearward performance requirements at this late date might mean that manufacturers would be unable to redesign their seats in time to commence manufacture of completed buses on April 1, 1977. Since single-stage buses produced after April 1, 1977, must meet NHTSA safety requirements in all other respects, they will be substantially safer than buses currently in use. Therefore, the agency finds that it is in the interest of safety to ensure that these safer buses will be available on April 1, 1977, to replace older less safe models. To ensure that safer buses can be marketed without delay, the NHTSA extends the effective date of requirements for maximum rearward deflection of seats to April 1, 1978. It is emphasized

that the numerous other requirements for school bus seating, including all other rearward performance requirements, remain in effect, which ensures adequate interior protection as of April 1, 1977, as mandated by Congress. A proposal for minor modification of S5.1.4 (to be published shortly) will permit reinstitution of rearward deflection requirements following the 1-year delay.

Because of the imminent effective date of the school bus safety standards and the lead time required to modify seat design, the NHTSA for good cause finds that notice and public procedure on this amendment are impracticable and contrary to the public interest.

In consideration of the foregoing, S5.1.4(b) of Standard No. 222 (49 CFR 571.222) is amended by the addition, at the beginning of the first sentence, of the following phrase: "In the

case of a school bus manufactured on or after April 1, 1978,".

Effective date: December 16, 1976. Because this amendment relieves a restriction and does not impose requirements on any person, it is found, for good cause shown, that an immediate effective date is in the public interest.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); Sec. 202, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegation of authority at 49 CFR 1.50.)

Issued on December 10, 1976.

Acting Administrator
Charles E. Duke

41 F.R. 54945
December 16, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 222

(Docket No. 73-3; Notice 12)

This notice amends Standard No. 222, *School Bus Passenger Seating and Crash Protection*, increasing the allowable rearward deflection of seats from 8 to 10 inches. The action is taken in response to petitions that indicated the current rearward deflection requirement is unnecessarily restrictive in that it would require costly retooling of school bus seats with no measurable safety advantage over a somewhat greater deflection distance that would not entail significant retooling. Additionally, a minor modification of the standard is made clarifying the meaning of "absorbed energy" consistent with an agency interpretation of that term.

Effective Date: April 1, 1978.

For further information contact:

Mr. Timothy Hoyt, Crashworthiness Division, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-2264).

Supplementary Information: On November 10, 1977, the NHTSA published a notice proposing to amend the rearward deflection requirement of Standard No. 222, *School Bus Passenger Seating and Crash Protection*. The impetus for that proposal came from several petitions from school bus manufacturers claiming that the rearward deflection requirement was unnecessarily restrictive since it would require significant retooling of school bus seats which would not be measurably superior, in terms of safety, to seats designed to meet a slightly greater deflection distance. They stated that seats produced in compliance with a somewhat greater rearward deflection requirement, as opposed to the currently specified 8-inch requirement, would not require retooling. The NHTSA agreed with the petitioners and, accordingly, proposed to increase the allowable rearward deflection of seats from 8 to 10 inches. By

the same notice, the NHTSA proposed a minor modification of the standard clarifying the agency's meaning of absorbed energy.

Only one comment was received in response to that notice of proposed rulemaking. The Vehicle Equipment Safety Commission did not submit comments.

The only commenter, Blue Bird Body Company, took issue with the agency's proposed method for limiting rearward seat deflection. It asserted that the requirement expressed in S5.1.4 (c) of the standard should be the only limitation on rearward seat deflection. That section provides that a seat shall not, when tested, come within 4 inches of any portion of another passenger seat.

Blue Bird's comment is not persuasive. The requirement of S5.1.4(c) addresses an entirely separate safety concern than the requirement of S5.1.4(b). Section S5.1.4(b) limits the rearward deflection of a seat, by this notice, to a maximum of 10 inches. That requirement functions as part of the compartmentalization scheme of Standard 222. Limiting the degree of seat back deflection helps to contain a child within the seat structures in the event of an accident. This requirement should be distinguished from that contained in S5.1.4(c), which is intended to ensure that a minimum amount of space remains between seats following an accident so that a child does not become trapped. Since both requirements are necessary to maintain the safety level considered necessary for school buses, Blue Bird's request is denied.

Blue Bird stated in its comments a preference for specifying maximum rearward seat deflection in terms of inches rather than angle. This comment suggests that Blue Bird misinterpreted the statements in the notice of proposed rulemaking as indicating that the NHTSA was contemplat-

ing an amendment that would limit the angle of seat deflection. The reference in the notice to a 40° seat angle was made only to justify the proposed 10-inch maximum seat deflection. A 40° seat angle roughly translates to 10 inches of rearward seat deflection. There was no intention to suggest that an angle limitation was under consideration. In fact, the preamble stated that the NHTSA had abandoned, in earlier rulemaking, attempts to adopt an angular measurement owing to the difficulty of making such a measurement.

The agency concludes that the extension of the allowable rearward deflection of seats from 8 to 10 inches assures passenger safety while minimizing the cost impact of compliance with the school bus regulations. Since this amendment relieves a restriction, it should result in no increase in costs.

In consideration of the foregoing, Part 571, of Title 49, CFR, is amended. . . .

The principal authors of this proposal are Timothy Hoyt of the Crashworthiness Division and Roger Tilton of the Office of Chief Counsel.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); Sec. 203, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegation of authority at 49 CFR 1.50.)

Issued on March 1, 1978.

Joan Claybrook
Administrator

43 F.R. 9149

March 6, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 222

School Bus Seating and Crash Protection

(Docket No. 73-3; Notice 13)

Action: Final rule.

Summary: This notice makes final an existing interim amendment to Standard No. 222, *School Bus Seating and Crash Protection*, increasing the maximum allowable seat spacing in school buses from 20 to 21 inches. In issuing the original standard, the agency intended that the seats be spaced approximately 20 inches apart (S5.2). However, because of manufacturing tolerances, some school bus manufacturers were spacing their seats at distances less than 20 inches to ensure that the spacing does not exceed the prescribed maximum. A seat spacing specification of 21 inches permits 20-inch spacing of seats by taking manufacturing tolerances into fuller account. This spacing will accommodate large high school students while still ensuring a safe level of school bus seat performance.

Effective date: Since this amendment merely makes final an existing interim rule, it is effective March 29, 1979.

For further information contact:

Mr. Robert Williams, Crashworthiness Division, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202) 426-2264.

Supplementary information: On December 22, 1977, the National Highway Traffic Safety Administration issued a proposal to increase the allowable seat spacing in school buses from 20 to 21 inches (42 FR 64136). Concurrently with that proposal, the NHTSA issued an interim final rule permitting buses to be constructed immediately with the increased seat spacing (42 FR 64119). This action was taken to provide the amount of seat spacing in school buses originally intended

by the agency and to relieve immediately problems created by the unnecessarily limited seat spacing in buses then being built. The action resulted from numerous complaints by school bus users relating to seat spacing. The proposal and interim final rule responded to petitions from the Wisconsin School Bus Association and the National School Transportation Association asking for increased seat spacing.

The agency received many comments in response to its December 1977 proposal. Most comments favored some extension in the seat spacing allowance in school buses. Commenters differed as to the amount of seat spacing needed to accommodate fully the larger school children. Some commenters suggested that the agency provide still more seat spacing than proposed in the December 22 notice. Other commenters supported the agency's suggested modification.

The agency has reviewed all of the comments and the petitions concerning this issue and has concluded that the proposal and interim rule provide sufficient seat spacing in school buses for all school children. To provide greater seat spacing, as suggested by some commenters, might necessitate changing the seat structures to absorb more energy. See the December proposal for further discussion of this point. The NHTSA does not believe that such a costly change is warranted at this time. The agency notes that as a result of the interim rule seat spacing in buses has become adequate to meet the needs for pupil transportation to and from school. The agency continues, however, to research the proper seating for activity buses and will address that issue in a separate notice as soon as all of the research and analysis is completed.

In accordance with the foregoing, Volume 49 of the Code of Federal Regulations, Part 571, Standard No. 222, *School Bus Seating and Crash Protection*, is amended

The principal authors of this notice are Robert Williams of the Crashworthiness Division and Roger Tilton of the Office of Chief Counsel.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407) ; Sec. 203, Pub. L. 93-492,

88 Stat. 1470 (15 U.S.C. 1392) ; delegation of authority at 49 CFR 1.50.)

Issued on March 21, 1979.

Joan Claybrook
Administrator

44 F.R. 18674-18675
March 29, 1979

PREAMBLE TO AN AMENDMENT TO FEDERAL MOTOR VEHICLE SAFETY STANDARD NO. 222

Federal Motor Vehicle Safety Standards; School Bus Passenger Seating and Crash Protection

[Docket No. 73-3; Notice 15]

ACTION: Final rule.

SUMMARY: This notice amends the agency's school bus seating standard to increase seat spacing from 21 to 24 inches. This amendment is being issued to resolve problems experienced by users, i.e., school districts and contract carriers, to the effect that mandatory seat spacing at the prior level inhibited some necessary uses. The agency finds that an additional space seating option will not inhibit safety.

DATE: This amendment is effective March 24, 1983.

SUPPLEMENTARY INFORMATION: Standard No. 222, *School Bus Passenger Seating and Crash Protection*, was one of several standards implemented pursuant to the Motor Vehicle and School Bus Safety Amendments of 1974 (Pub. L. 93-492). The standard regulates the performance aspects of school bus seats. One portion of the standard limits the longitudinal spacing between seats in buses with gross vehicle weight ratings (GVWR) of more than 10,000 pounds. No seat may be positioned more than 21 inches from the seat immediately to the front, measured from the seating reference point to the seat back or restraining barrier located in front of the seat.

The initial version of Standard 222 which became effective on April 1, 1977, limited school bus seat spacing to 20 inches. Soon after school buses began to be produced in compliance with this requirement, users began to experience problems of inadequate spacing. Because of quality control and other production problems

affecting seat spacing, manufacturers were spacing seats significantly less than the 20 inches permitted by the standard to ensure compliance. As manufacturers improved their production techniques, seat spacing was extended.

The agency upon examination of its then existing data concluded later that same year that it could extend seat spacing to 21 inches without adversely affecting the compartmentalization concept that was the key to protecting children in the buses. Compartmentalization attempts to protect children between well padded high-backed seats. The agency amended the rule accordingly (42 F.R. 64119, December 22, 1977) and undertook to study further the appropriateness of the required seat spacing.

Both the amendment and improved manufacturer production methods reduced the number of spacing problems significantly. Some problems continue to exist, however, especially concerning buses used to transport children long distances to and from school, or to and from school related events which may be located far from the school itself. The agency has conducted tests to see whether it could improve seat spacing to respond to these continuing problems, without compromise of safety. The tests, which are available in the Technical Reference Section of the agency under H73-3 "School Bus Passenger Seat and Lap Belt Sled Tests," DOT-HS-804985, December 1978, show that seat spacing could be increased up to 24 inches without impairing the concept of compartmentalization. An increase in seat spacing beyond 24 inches might impair the ability of the seats to absorb energy in the manner required by the standard. Accordingly,

on February 25, 1982, the agency proposed a further increase in seat spacing to 24 inches (47 F.R. 8231).

The agency received numerous comments in response to the notice of proposed rulemaking. Virtually all of those comments supported the agency's action. In accordance with the comments and the existing agency information, the agency, by this notice, makes final the increased seat spacing to 24 inches.

Three school districts out of the more than 140 commenters on the February notice objected to the increased seat spacing. It appears that these commenters were afraid that the increased seat spacing was mandatory and that this would in turn reduce the seating capacity in their vehicles resulting in the need to purchase additional buses or realign school routes. This understanding is not accurate. The increased seat spacing is merely optional. If a school chooses to have additional spacing in some or all of its buses, up to 24 inches, this would be permitted. Otherwise, schools may continue to purchase buses with seats spaced as they are today. Seat spacing less than 24 inches is completely within the discretion of the school that is purchasing the vehicles.

Commenters to the February notice raised another issue that is somewhat related to seat spacing. They requested more comfortable seats and additional leg room for long distance school

buses. These are the vehicles that frequently have been involved in transporting children to and from activities or, in some instances, carry children over long distances to schools in some of the Western States. The commenters in general would prefer to have recliner seats or some other seating system that would be more comfortable for these uses.

The agency has explored the possibility of establishing another optional seating mode in school vehicles that would accommodate the concerns of these commenters. The agency concludes that recliner seats could not provide the same level of safety as provided by existing seat requirements in school buses. Accordingly, the agency declines to adopt this suggestion. NHTSA believes that the seat spacing extension being made today should address adequately the problem of comfort in buses used for school activities.

This amendment is being made effective immediately. It relieves a restriction, and is completely optional, and does not require any manufacturer or purchaser to alter present practices. Further, the agency has learned that many companies and purchasers are waiting for this amendment before purchasing new vehicles. Therefore, an immediate effective date is in the public interest.

Issued on March 17, 1983.

Raymond A Peck, Jr.
Administrator
48 F.R. 12384
March 24, 1983

PREAMBLE TO AN AMENDMENT TO FEDERAL MOTOR VEHICLE SAFETY STANDARD NO. 222

Seat Belt Assembly Anchorages
(Docket No. 87-08; Notice 5)
RIN: 2127-AD12

ACTION: Final rule.

SUMMARY: This rule establishes a new requirement for lap/shoulder safety belts to be installed in all forward-facing rear outboard seating positions in convertible passenger cars, light trucks and multipurpose passenger vehicles (e.g., passenger vans and utility vehicles), and small buses. Rear-seat lap/shoulder belts are estimated to be even more effective than rear-seat lap-only belts in reducing fatalities and moderate-to-severe injuries. As safety belt use in the rear seat of these vehicle types increases, the greater effectiveness of rear-seat lap/shoulder belts should yield progressively greater safety benefits. NHTSA also anticipates that this rule will achieve benefits by helping to increase safety belt use in rear seating positions of these vehicle types, by providing rear-seat occupants with maximum safety protection when they buckle up.

This rule also establishes a requirement for lap/shoulder belts to be installed at the driver's seat and at any other front outboard seating position in small buses. NHTSA believes that lap/shoulder safety belts in these small buses will offer the same benefits as lap/shoulder belts in those positions offer to occupants of passenger cars, light trucks, and light multipurpose passenger vehicles.

EFFECTIVE DATE: The amendments of S7.1.1.3 and S7.1.1.5 are effective on September 1, 1991. All the other amendments made by this rule take effect on May 1, 1990. These requirements apply to convertible passenger cars, light trucks, light multipurpose passenger vehicles, and small buses manufactured on or after September 1, 1991. Convertible passenger cars, light trucks, light multipurpose passenger vehicles, and small buses manufactured before September 1, 1991 may also comply with these requirements.

SUPPLEMENTARY INFORMATION: Background. On January 1, 1968, the initial Federal Motor Vehicle Safety Standards took effect. One of those standards was Standard No. 208, *Occupant Crash Protection* (49 CFR 571.208), which required the installation of lap/shoulder safety belts at the driver's and right front

passenger's seating positions of passenger cars, and either lap-only or lap/shoulder safety belts at every other designated seating position. Another of the initial safety standards that took effect on January 1, 1968 was Standard No. 210, *Seat Belt Assembly Anchorages* (49 CFR 571.210), which specified location and strength requirements for the anchorages used to hold the safety belts to the passenger car during a crash. Standard No. 210 required passenger car manufacturers to provide anchorages for lap/shoulder belts for each forward-facing front and rear outboard seating position in all cars other than convertibles. NHTSA subsequently amended both of these standards to extend their applicability to trucks, multipurpose passenger vehicles (MPVs), and buses. However, when Standard No. 210 was extended to these additional vehicle types, NHTSA did not require the manufacturers to provide upper torso (i.e., shoulder belt) anchorages for rear outboard seating positions in these other vehicle types or in convertible passenger cars.

Studies of occupant protection from 1968 forward show that the lap-only safety belts installed in rear seating positions are effective in reducing the risk of death and injury. See, for example, the studies cited in the ANPRM on this subject; 52 FR 22820, June 16, 1987. However, the agency believes that rear-seat lap/shoulder safety belts would be even more effective. NHTSA estimates that rear-seat lap-only belts reduce the risk of death by 24-40 percent, while rear-seat lap/shoulder belts reduce that risk by 32-50 percent. The somewhat greater effectiveness of lap/shoulder belts vs. lap-only belts in the rear seat results in progressively greater actual safety benefits for rear-seat occupants, to the extent that those safety belts are, in fact, used. As recently as 1981-82, only two percent of rear-seat occupants used their safety belts. At that level of belt use, there are very few safety benefits from requiring rear-seat lap/shoulder belts instead of lap-only belts. However, belt use in the rear seat has steadily risen, with 16 percent of rear seat occupants buckling up in 1987. As rear-seat belt use continues to rise, the incremental benefits of rear-seat lap/shoulder belts can be realized.

The increase in belt use in rear seats was one of the factors reflected in the agency's decision to grant a petition by the Los Angeles Area Child Passenger Safety Association asking NHTSA to establish a requirement for rear-seat lap/shoulder safety belts. After granting this petition, NHTSA published an advance notice of proposed rulemaking (ANPRM) on June 16, 1987 (52 FR 22818). Thirty-four commenters responded to the ANPRM's request for comments on the need for rulemaking action to require lap/shoulder safety belts in rear seating positions.

After considering these comments, NHTSA concluded that several factors had changed since the agency had previously examined this issue and determined that it was appropriate to give vehicle manufacturers the option of installing either lap-only belts or lap/shoulder belts in rear seats. Among the changed factors were the substantial increase in rear seat safety belt use and the substantial decrease in costs of a requirement for rear-seat lap/shoulder belts, because of manufacturers voluntarily equipping more and more of their vehicles with rear seat lap/shoulder belts. After analyzing the effects of these changed factors and the comments on the ANPRM, NHTSA tentatively determined that a requirement for lap/shoulder belts would now be appropriate. Accordingly, NHTSA published a notice of proposed rulemaking (NPRM) on November 29, 1988 (53 FR 47982).

This NPRM was a comprehensive proposal that proposed requirements for passenger cars and light trucks, MPVs, and small buses to be equipped with lap/shoulder safety belts at all forward-facing rear outboard seating positions. Additionally, the NPRM proposed that these lap/shoulder safety belts be equipped with a particular type of retractor, that such belts be integral (i.e., the shoulder belt could not be detachable from the lap belt), and that such belts comply with some of the comfort and convenience requirements specified in section S7.4 of Standard No. 208.

More than 70 comments were received on this NPRM. The issue of whether passenger cars other than convertibles would be equipped with rear seat lap/shoulder belts was straightforward and noncontroversial, with only two commenters suggesting some modifications of the agency's proposal to require all 1990 and subsequent model year passenger cars to be equipped with rear-seat lap/shoulder belts. To ensure the earliest possible implementation of a requirement for rear-seat lap/shoulder belts in passenger cars, on June 14, 1989, NHTSA published a final rule addressing only those vehicles (54 FR 25275). That rule requires rear-seat lap/shoulder belts in all passenger cars manufactured on or after December 11, 1989.

This rule addresses all of the other issues that were presented in the November, 1988 NPRM on this topic. For the convenience of the reader, this rule uses the same organization and format as the NPRM did.

Requirements of this Rule

1. Seating Positions Subject to These Requirements

The NPRM proposed that lap/shoulder belts be required in rear seats at outboard seating positions *only*. Some commenters suggested that technologies and designs are available to provide lap/shoulder belts at rear center seating positions, and that NHTSA should further examine this issue. The agency explained in the NPRM that there are more technical difficulties associated with any requirement for lap/shoulder belts at center rear seating positions, and that lap/shoulder belts at center rear seating positions would yield small safety benefits and substantially greater costs, given the lower center seat occupancy rate and the more difficult engineering task. Accordingly, this rulemaking excluded further consideration of a requirement for center rear seating positions. None of the commenters presented any new data that would cause the agency to change its tentative conclusion on this subject that was announced in the NPRM.

The NPRM also noted that seating positions adjacent to aiseways in some vans might not be "outboard designated seating positions" as defined at 49 CFR § 571.3, because those aisle seats could be more than 12 inches from the inside of the vehicle. General Motors (GM) stated its belief that this discussion showed the agency's intent to exclude seats that border aiseways from the lap/shoulder belt requirement. GM suggested that the reasons for excluding these seating positions from the lap/shoulder belt requirement were the costs and/or practical difficulties that would be presented if aisleway seating positions were required to be equipped with lap/shoulder belts. Specifically, GM stated that locating the anchorage for the upper end of the shoulder belt on the aisle side of the vehicle would stretch the shoulder belt across the aisleway and cause entry and exit problems for occupants of seating positions to the rear of the aisleway seating position. To avoid such difficulties, the anchorage for the upper end of the shoulder belt could be moved to the roof of the vehicle. However, roof structural modifications would have to be made to accommodate the anchorage, and these modifications would impose disproportionately high costs. GM stated in its comments that these reasons would apply with equal force to all seats adjacent to aiseways, regardless of whether such seats were more than or less than 12 inches from the inside of the vehicle.

NHTSA has determined that these comments have merit. The agency did not mean to suggest that shoulder belts should be required at seating positions where they would obstruct an aisle designed to give access to rear seating positions. Accordingly, this rule has been modified from the proposal to specify that these rear-seat lap/shoulder belt requirements apply

to rear outboard seating positions *except* any outboard seating positions that are adjacent to a walkway located between the seat and the side of the vehicle to allow access to more rearward seating positions. Of course, in those cases where manufacturers are able to design and install lap/shoulder belts at seating positions adjacent to aiseways without interfering with the aisleway's purpose of allowing access to more rearward seating positions, NHTSA encourages the manufacturers to do so. It should also be noted that those rear seating positions at which lap/shoulder belts are not installed voluntarily or in response to a regulatory requirement *are required* by Standard No. 208 to be equipped with lap-only safety belts, which have been proven effective in reducing the risk of death and injury.

2. Types of Rear Seats Subject to These Requirements

The NPRM proposed limiting these requirements to *forward-facing* rear outboard seats, because the agency is unaware of any data showing that occupants of center-facing or rear-facing seating positions would be significantly better protected by lap/shoulder belts than by lap-only belts. The NPRM also referred to an April 8, 1988 letter to Mr. Ohdaira of Isuzu Motors, in which NHTSA stated that S7.1.1 of Standard No. 208 requires safety belts on swivel seats installed at *front* outboard seating positions to adjust to fit occupants "with the seat in any position." Because the same regulatory language would apply to swivel seats installed at *rear* outboard seating positions if the proposal were adopted as a final rule, the NPRM proposed to add express regulatory language to S7.1.1 to codify the interpretation.

Three commenters responded to this discussion in the NPRM. Ford, Nissan, and Toyota raised substantially the same points in their comments. These commenters all suggested that the agency ought to require swivel seats to provide lap/shoulder belts for occupants when the seats are forward-facing, but permit occupants to be restrained by lap-only belts when the swivel seats are adjusted to some position other than forward-facing. These manufacturers argued that the overall protection of upper torso restraints (i.e., shoulder belts) on occupants of center-facing seating positions is unclear. For example, in certain instances, the design standard in Australia *prohibits* manufacturers from providing upper torso restraints at center-facing seating positions. Further, these manufacturers stated that they knew of no crash data suggesting the need for such a requirement. According to these commenters, the absence of demonstrable safety benefits associated with such a requirement combined with the demonstrable technological problems and costs associated with such a

requirement should lead the agency to require only lap belts when swivel seats are adjusted to a position other than forward-facing.

NHTSA was persuaded by these comments. Indeed, as Ford noted in its comments, just as the NPRM stated that no data show that occupants of center-facing or rear-facing seats would be significantly better protected by lap/shoulder belts instead of lap-only belts, no data show that occupants of swivel seats adjusted to the center-facing or rear-facing positions would be significantly better protected by lap/shoulder belts instead of lap-only belts. Accordingly, this final rule adds language to Standard No. 208 that requires swivel seats to provide lap/shoulder belts for occupants when the seat is adjusted to the forward-facing position and permits swivel seats to provide lap-only belts for occupants when the seat is adjusted to some position other than forward-facing. The Ohdaira interpretation is, therefore, overruled to the extent that it is inconsistent with this new language in Standard No. 208.

In its comments, Ford indicated that it would be appropriate for this preamble to discuss a type of seat Ford is considering installing in future vehicle models. This seat was described as a bench seat that converts from forward-facing to rear-facing. Under the language added to Standard No. 208 by this rule, all seats that can be adjusted to a forward-facing position and some other position, regardless of whether such seats are swivel seats, convertible seats of the sort described in Ford's comment, or any other such seat, must provide lap/shoulder belts when in the forward-facing position and may provide lap-only belts when adjusted to some position other than forward-facing.

3. Vehicle Types Subject to These Requirements

a. Passenger Cars

In the NPRM, the agency proposed to make the requirement for rear seat lap/shoulder belts apply to *all* passenger cars, including convertibles. As previously discussed, the requirements for passenger cars other than convertibles were published in a June 14, 1989 final rule (54 FR 25275). The NPRM proposed that rear seat lap/shoulder belts be required on convertible passenger cars manufactured on or after September 1, 1991.

In its comments, Volkswagen asked for an additional year of leadtime, until September 1, 1992, before rear seat lap/shoulder belts must be installed in convertible passenger cars. According to this commenter, the convertible version of its Golf model (the Cabriolet) is not currently equipped with rear seat lap/shoulder belts, was not originally designed to accommodate such belts, and will need substantial modifications to its current design if the car is to accommodate such belts.

No change has been made in response to this comment. The NPRM noted that it was more difficult to install rear seat lap/shoulder belts in convertibles than in other passenger cars, but that, in spite of these difficulties, at least three different manufacturers had rear-seat lap/shoulder belts in their 1988 model year convertibles. Accordingly, the agency proposed to require convertible passenger cars to be equipped with rear-seat lap/shoulder belts, but to allow two years more leadtime than was proposed for other passenger cars, in recognition of the greater technical difficulties. Volkswagen's comment appears to be that more than two years of additional leadtime is needed to overcome the greater technical difficulties associated with convertibles, although the comment does not include any explanation or analysis of why this is so. A manufacturer's unsubstantiated desire for additional leadtime is not a sufficient basis for the agency to postpone the proposed September 1, 1991 effective date for rear seat lap/shoulder belts in convertibles. Therefore, this rule adopts the proposed requirement.

b. Light Multipurpose Passenger Vehicles.

This vehicle type consists primarily of passenger vans with a seating capacity of 10 persons or less and utility vehicles and other off-road vehicles. None of the commenters suggested any particular problems that a requirement for rear-seat lap/shoulder belts would impose on MPVs in general. Toyota repeated its position that the voluntary installation of rear-seat lap/shoulder belts by manufacturers in all vehicle types made it unnecessary for NHTSA to proceed with this rulemaking. NHTSA responded at length to similar comments by the vehicle manufacturers in the preamble to the NPRM; *see* 53 FR 47984.

Ford did not object to the proposed general requirement for rear-seat lap/shoulder belts in light MPVs, but asked that open-body type MPVs be excluded from the requirement. Ford explained its comment by stating that its Bronco II utility vehicle has a removable roof over the rear passenger and cargo area. According to Ford's comments, "Because the removable roof on this vehicle extends below the shoulder reference point, it would be impossible to obtain a good shoulder belt fit if the shoulder belt anchorages were to be located on the non-removable side panels of the vehicle." For these reasons, Ford suggested that open-body type MPVs be exempted from these requirements or that the proposed requirements be revised to make clear that rear-seat lap/shoulder belts are not required in open-body type MPVs when the roof is removed.

NHTSA agrees with Ford's assertions that open-body type MPVs present greater technical difficulties for the installation of rear seat lap/shoulder belts than other MPVs or convertible passenger cars. For example,

the rear seats are closer to the rear of the vehicle and the rear seats are higher in relation to the vehicle floor and sides in most open-body type MPVs than in most convertible passenger cars. The agency concurs with Ford's assertion that these factors tend to make the shoulder belt geometry more difficult in open-body type MPVs. However, the agency does not believe that these factors present insurmountable engineering difficulties. Instead, NHTSA believes that these problems can be solved in a relatively straightforward manner. While manufacturers cannot use the exact same designs used for convertible passenger cars on open-body type MPVs, the convertible passenger car designs can be modified for use in open-body type MPVs. NHTSA concludes that if it is practicable to offer the increased protection of shoulder belts at rear outboard seating positions, and the added costs are comparable to the costs for other MPVs and convertible passenger cars, there is no reason to exclude open-body type MPVs from the requirement for rear seat lap/shoulder belts in MPVs. Hence, no change has been made to the proposed requirements for MPVs in response to this comment by Ford.

The agency notes that this means that lap/shoulder belts will be required in the rear outboard seats of open-body type MPVs, while lap-only belts will be permitted in front outboard seats of those vehicles. (In practice, however, manufacturers have voluntarily provided front-seat lap/shoulder belts in these vehicles.) NHTSA is in the process of re-examining the occupant protection requirements for the front seating positions in open-body type MPVs and other light trucks and vans, with particular consideration of whether automatic occupant protection should be required in these vehicles. NHTSA will address the discrepancy between the regulatory requirements for front and rear seat occupant protection in open-body type MPVs in the course of that re-examination.

c. Light Trucks and Small Buses

All commenters that addressed the proposed requirements for rear-seat lap/shoulder belts in light trucks supported the proposal. Similarly, no commenters raised any objections to the proposed rear-seat lap/shoulder belt requirements in small buses *other than school buses*. Thus, those proposed requirements are adopted, for the reasons explained in the NPRM.

However, several commenters, primarily school bus manufacturers and operators, objected to the proposed requirements for rear-seat lap/shoulder belts in small school buses. Thomas Built, a school bus manufacturer, questioned the effectiveness of rear-seat lap/shoulder belts in certain small school buses ("body on chassis" buses). The Connecticut Operators of School Trans-

portation Association (COSTA) also questioned the effectiveness of lap/shoulder belts in small school buses, by voicing concerns about how the additional stress on the side walls of a small school bus would affect its compliance with Standard No. 221, *School Bus Body Joint Strength* (49 CFR 571.221). Thomas Built also raised the issue of different levels of safety protection for passengers on small school buses, with lap/shoulder belts for outboard seating positions and lap-only belts for the inboard seating positions. The National School Transportation Association (NSTA) likewise objected to the different levels of occupant protection that would result if some seating positions were equipped with lap/shoulder belts while others were equipped with lap-only belts. Blue Bird, another school bus manufacturer, raised similar objections, claiming that NHTSA occupant protection standards for school buses are "disorganized and confusing," and suggested that the agency undertake rulemaking to separate the occupant protection requirements for school buses from the occupant protection standards for passenger cars and light trucks. Additionally, Blue Bird argued that the requirements proposed in the NPRM would require too many varieties of occupant protection for small school buses.

NHTSA is concerned if Blue Bird or any other school bus manufacturer is having difficulty understanding the occupant protection requirements applicable to the different types of vehicles that can be used to transport school children. A brief summary of those requirements might be helpful. If school systems use a nine or fewer passenger vehicle to transport school children, that vehicle is not a "school bus" for the purposes of the Federal motor vehicle safety standards. Accordingly, that vehicle is not subject to any of the requirements in Standard No. 222, *School Bus Passenger Seating and Crash Protection* (49 CFR § 571.222). Instead, that vehicle would have to comply with the applicable requirements in Standard No. 208. As a result of this rule published today and the agency's previous rulemaking, all front and rear outboard seating positions, in nine-passenger light vehicles must be equipped with lap/shoulder safety belts, *irrespective* of whether the nine-passenger light vehicle is classified as a passenger car, truck, or an MPV.

If the vehicle used to transport school children can accommodate 10 or more passengers, the vehicle is a "school bus" for the purposes of the Federal motor vehicle safety standards. Every vehicle that is a "school bus" must comply with the occupant protection requirements of Standard No. 222. In the case of school buses with a gross vehicle weight rating (GVWR) of more than 10,000 pounds, no safety belts are required at seating positions other than the driver's seat. Instead, Standard No. 222 sets forth requirements that protect occupants of rear seating positions in large

school buses by means of a concept called "compartmentalization." Persons interested in learning more about the concept of compartmentalization and occupant protection in large school buses may wish to review the agency's notice terminating rulemaking to specify installation requirements for voluntarily installed safety belts on large school buses. This notice was published March 22, 1989 at 54 FR 11765.

In the case of school buses with a GVWR of 10,000 pounds or less, Standard No. 222 requires that occupants be protected *both* by safety belts at seating positions other than the driver's seat *and* by most of the features of compartmentalization. This double means of occupant protection reflects the more severe "crash pulse" or deceleration experienced by lighter vehicles as compared with heavier vehicles in similar collisions. Sections S5(b) of Standard No. 222 requires that small school buses meet the requirements of Standard No. 208 as those requirements apply to MPVs. The provisions of Standard No. 208 currently require MPVs (and small school buses, since the requirements for these two vehicle types are linked) to be equipped with lap/shoulder safety belts at front outboard seats and either lap/shoulder belts or lap-only belts at all other seating positions.

Upon further consideration, NHTSA has determined that the occupant protection requirements for small school buses should be considered separately, not as an aspect of the rulemaking action. In the past, NHTSA has recognized the special importance of issues related to school buses by examining many of those issues in rulemaking actions focused exclusively on school buses, instead of examining those issues as one part of a rulemaking addressing many types of vehicles. This policy has allowed both the agency and the public to consider fully the implications of any proposed action on school buses safety. NHTSA believes it is appropriate to continue following this policy. Accordingly, this rule continues to permit small school buses to be equipped with either lap-only or lap/shoulder safety belts at all rear seating positions, but small school buses must also comply with most of the compartmentalization requirements for large school buses. All other small buses will be required to be equipped with rear-seat lap/shoulder safety belts, but will not be required to comply with the compartmentalization requirements.

The NPRM acknowledged that small buses other than school buses are not currently required to have lap/shoulder safety belts at front outboard seating positions, even though front seats generally present a more hostile crash environment than rear seats. As noted above, small school buses are subject to the occupant protection requirements for MPVs, and small MPVs have long been required to have lap/shoulder safety belts at front outboard seating positions. No

commenters suggested any reasons why front-seat lap/shoulder belts should not be required in small buses, just as they are required in small school buses. This rule adopts such a requirement.

4. Vehicle Types NOT Subject to These Requirements

a. Vehicles with a GVWR of More Than 10,000 Pounds

NHTSA has traditionally used GVWRs as dividing lines for the purposes of applying occupant crash protection standards. These groupings reflect the differences in the vehicles' functions and crash responses and exposure. The NPRM proposed to use such a dividing line by limiting the rear seat lap/shoulder belt requirements to vehicles with a GVWR of 10,000 pounds or less. No commenters addressed this issue, and this rule adopts the proposal.

b. Motor Homes

The NPRM proposed to exclude vehicles that are "motor homes" from the rear-seat lap/shoulder belt requirements, because lap/shoulder belts at rear seating positions might interfere with the residential purposes of those seats and because the agency had no evidence of significant potential benefits from lap/shoulder belts, instead of the currently permitted option for lap/shoulder or lap-only belts, at these seating positions. The NPRM also proposed a specific definition of "motor home." These proposed requirements are adopted in this rule.

5. Retractor Types Required for Rear Seat Lap/Shoulder Belts

Retractors at Driver's Seat in Small Buses.

The NPRM proposed to require that the lap/shoulder belt assembly installed at the driver's seating position of small buses include an anti-cinch automatic locking retractor (ALR) on the lap belt portion. Both Ford and Chrysler objected to this proposed requirement, stating that it would preclude the use of the continuous loop lap/shoulder belt system in small buses. The continuous loop system, currently used on most manual lap/shoulder belt systems in passenger cars, uses a single emergency locking retractor (ELR) on one end of the belt system and the other end of the belt system is fixed. The ELR then retracts both the lap and shoulder belt portions of the belt system. Ford and Chrysler each commented that they currently use a continuous loop system for the lap/shoulder belts that they voluntarily install at the front outboard seating positions of their small buses, and that they knew of no safety justification for a requirement that would prohibit the use of continuous loop system in small buses, as the proposed requirement for an ALR for the lap belt would have the effect of doing. NHTSA was persuaded by these comments. This rule has been amended to permit the belt systems at front outboard

seating positions in small buses to be equipped with either an ELR or an anti-cinch ALR for the lap belt portion.

Retractors for Rear Seats and Child Safety Seats

The NPRM contained a detailed discussion of the agency's previous statements on this subject, and repeated the agency's previous conclusion that *only* ELRs should be permitted as the retractor for the lap belt portion of the lap/shoulder belt system. See 53 FR 47987-47989; November 29, 1988. The agency's conclusion was based on the fact that ELRs for the lap belt made the belt system more comfortable and convenient for adult occupants, thereby tending to increase use of the belt system. Although active children can make some child restraint systems unstable if the child restraint is secured by a lap belt that incorporates an ELR, NHTSA knew of no data to show that this potential instability would affect the safety performance of the child restraint in motor vehicle crashes. Those parents that wanted to eliminate the potential instability of child restraints, even if the instability did not have any demonstrable effect on safety, could purchase locking clips. These locking clips can prevent movement of belts equipped with an ELR.

NHTSA received many comments on this discussion and the accompanying proposal. Many pediatricians and other medical professionals, as well as advocates of child safety, associations representing the insurance industry, and manufacturers of child safety seats, commented that it was important that the belt system in the vehicle be capable of tightly securing a child seat, without resort to any additional hardware like locking clips. The commenters suggested differing means of achieving this end. Some of these commenters advocated that this rule should specify the use of only ALRs in the lap belt portion, because ALRs automatically tighten down to secure the child seat. Other of these commenters, such as the Los Angeles Area Child Passenger Safety Association, urged the agency to draft this rule to require the use of convertible retractors similar to those installed in some General Motors vehicles. These convertible retractors function as ELRs normally, to ensure comfort for adult occupants. When the belt webbing is fully extended, however, the retractors convert to ALRs, to tightly secure child seats. Other of these commenters suggested that the agency could ensure that these rear-seat lap/shoulder belt systems would tightly secure child seats by following the course of action being considered for recommendation by a Society of Automotive Engineers (SAE) Task Force. That task force may recommend that safety belts which incorporate ELRs in the lap belt or lap belt portion of a belt assembly shall include a means for locking the lap belt when it is used with a child seat. Instead of specifying

the use of some specific technology, like ALRs or convertible retractors, this approach sets forth the desired goal and permits manufacturers to use any available technology to achieve that goal.

Some of the vehicle manufacturers, such as Nissan and Toyota, believe that there is no need for any further requirements. According to these commenters, and persons wishing to secure a child seat at a seating position whose lap belt is equipped with ELR can cause the retractor to perform like an ALR simply by using a locking clip. Volvo commented that the agency ought to permit the use of a continuous loop lap/shoulder belt. Volvo asserted that its design of the continuous loop system uses friction at the loop in the buckle to achieve an effect similar to that which would be obtained by using a locking clip. In Volvo's opinion, this lap/shoulder belt system is the best means of both securing child safety seats and ensuring comfort for other occupants of the belt system. Chrysler commented that it was considering modifications to the buckle latchplate as a means of accomplishing the same effect as would locking clips for its belt assemblies equipped with ELRs.

NHTSA has reached the following conclusions after reexamining the available information in light of these comments. Nothing in these comments or the available information shows that low-speed movement of child safety seats actually reduces to any significant extent the effectiveness of those seats in crashes. However, the low-speed movement of child safety seats held by lap belts that use an ELR seems to have given rise to questions and concerns about the safety and effectiveness of child seats when used with a belt that incorporates an ELR. Even if these questions and concerns have not been substantiated, the public may not be as likely to use child safety seats if there are perceived questions about the effectiveness of those seats. NHTSA has concluded that it is appropriate to take action to remove these perceived questions, so as to maintain public trust and confidence in the efficacy of child seats.

The agency was persuaded by the comments asserting that it would be unnecessarily restrictive to require the use of ALRs on the lap belt portion of rear seat lap/shoulder belts, because there are design features other than incorporating an ALR that are as effective in ensuring that the belt system can tightly secure a child safety seat and because such a feature could reduce safety belt use by adult occupants. NHTSA has devised an approach in this final rule that will ensure comfort for adult occupants and tight securing of child safety seats. First, this rule requires that any lap belt or lap belt portion of a lap/shoulder belt installed at an outboard designated seating position in compliance with Standard No. 208 shall be equipped

with an ELR. This requirement will take effect on September 1, 1991 for passenger cars, as well as the vehicle types addressed in this rule.

Second, this final rule requires that safety belts that incorporate an ELR in the lap belt or lap belt portion of a lap/shoulder belt shall provide some means other than an external device that requires manual attachment or activation that will prevent any further webbing from spooling out until that means is released or deactivated. This requirement will also take effect on September 1, 1991 for passenger cars and vehicle types addressed in this rule. The purpose of this requirement is to ensure that child safety seats can be tightly secured. This requirement will *not* allow vehicle manufacturers to provide "locking clogs" to comply with this requirement. However, any means that can function without additional manual actions can satisfy this requirement. For instance, the convertible retractors on some GM vehicles would comply with this requirement. Additionally, devices like Volvo's are acceptable if those devices do not require any further manual actions to prevent webbing spool out. This approach is intended to allow vehicle manufacturers the freedom to choose whatever approach they prefer to prevent webbing spool out for ELRs, while ensuring that whatever approach is chosen will be effective.

6. The Requirements With Which Rear Seat Lap/Shoulder Belts Must Comply

The NPRM did not propose to require any crash testing requirements for rear-seat lap/shoulder belts, for several reasons. First, neither dummy positioning procedures nor testing procedures for rear seat occupants have yet been developed. In fact, the rear seats are generally removed from vehicles when conducting compliance testing for occupant protection for the front seating positions, to allow the specified weight distribution to be more easily achieved and to permit the installation of additional instrumentation. Second, the rear seating positions offer a generally more benign crash environment than the front seating positions. Accordingly, the agency concluded that it could not justify delaying a proposal for rear-seat lap/shoulder belts until it was able to propose a requirement for dynamic testing of those safety belts. Several commenters stated that they agreed with the agency's decision not to delay this rulemaking, but suggested that the agency ought to move expeditiously to establish crash testing requirements for rear seat occupants. NHTSA will consider these comments when it establishes its priorities for future activities in the area of occupant protection.

As an adjunct to the decision not to require crash testing of rear-seat lap/shoulder belts, the agency proposed to require that rear-seat lap/shoulder belts be

integral. Section S4.1.2.3.1 of Standard No. 208 specifies that manual safety belts installed at front outboard seating positions must be either (a) integral lap/shoulder belts or (b) crash-tested lap-only belts such that the car complies with the occupant protection requirements with test dummies restrained only by the lap belts. However, since the agency cannot at this time promulgate any crash testing requirements for rear-seat safety belts, NHTSA believes it is appropriate to require that rear-seat lap/shoulder belts installed in compliance with this rule be integral; i.e., the lap belt must not be detachable from the shoulder belt.

Several commenters suggested that the requirement for integral lap/shoulder belts should not apply to certain types of seats or vehicles, because of special difficulties posed for those seats or vehicles. In response to these comments, NHTSA has carefully reexamined its proposal to require that *all* rear seat lap/shoulder belts installed in compliance with this rule be integral. The agency prefers to retain the proposed requirement, for the same reasons that the requirement was proposed. That is, to the extent that the lap belt is detachable from the shoulder belt and the lap belt is used without the shoulder belt, the enhanced safety protection offered by lap/shoulder belts will not be achieved. The agency's responses to the comments suggesting that there are some seating positions or vehicles in which rear outboard lap/shoulder belts should not be required to be integral are as follows:

a. Convertible Passenger Cars. ASC, Inc., a company that converts hardtops into convertibles, commented that it did not believe that rear-seat lap/shoulder belts installed in convertibles should be required to be integral. According to ASC's comments, a detachable shoulder belt that is not buckled would still offer the occupant the protection of the lap-only belt. While this comment is true, the purpose of this rulemaking is to ensure that rear-seat occupants will enjoy even greater safety protection than is afforded by lap-only belts. Detachable shoulder belts would not serve this purpose.

ASC's comment then asserted that "the detachability feature is essential for ASC to continue to manufacture at a competitive price a majority of its present convertible production which is already equipped with three point lap-shoulder safety belts." Accordingly, ASC believed that a requirement for integral rear-seat lap/shoulder belts would have a "significant negative impact on its business." The agency has previously stated that it is typically more difficult to install rear-seat lap/shoulder belts in convertibles than in sedans or coupes. However, the 1988 convertible models produced by BMW, Mercedes-Benz, and Saab were all equipped with *integral* lap/shoulder belts at rear outboard seating positions. These voluntary actions by convertible manufacturers showed that the technical difficulties associated with integral rear seat lap/shoulder belts in convertibles can be overcome. It may

well cost ASC, Inc. or other converters more to equip a convertible with integral rear-seat lap/shoulder belts than it would cost a high volume manufacturer. However, ASC provided no data or cost estimates that would permit the agency to estimate the cost differential for rear-seat lap/shoulder belts installed by high volume manufacturers and converters. Based on the available information, NHTSA concludes that it is unlikely that any such cost differential would have more than an insignificant effect on the demand for convertibles produced by converters.

NHTSA repeats its previous acknowledgements that it will cost manufacturers more to equip convertibles with integral rear seat lap/shoulder belts than it will cost to equip sedans and coupes with those safety belts. In its comments, Volkswagen stated that it would have to incur tooling costs of \$1.2 million to install integral rear-seat lap/shoulder belts in its convertibles, with variable costs of an additional \$60 per vehicle to install integral lap/shoulder belts instead of lap-only belts. NHTSA estimates that these costs would result in a consumer cost increase of \$90 per vehicle. Even accepting these costs as accurate, NHTSA does not believe that a \$90 cost increase for convertibles, which already cost substantially more than the hardtop version of the same vehicle, will have any *significant* negative impacts on the demand for convertibles, even those produced by converters.

To the extent that these costs result in some relatively minor economic impacts, the agency concludes that those costs and impacts are reasonable. The occupants of rear seating positions in convertibles are exposed to at least the same degree of risk of death and injury in a motor vehicle crash as occupants of rear seating positions in other light vehicles. In these circumstances, NHTSA has concluded it is appropriate to provide those occupants with the same amount of safety protection. Therefore, a requirement that convertible passenger cars manufactured on or after September 1, 1991 be equipped with integral lap/shoulder belts at rear outboard seating positions is adopted as proposed.

Fiat filed comments on behalf of Ferrari to the effect that it was possible to comply with the requirement for integral lap/shoulder belts for convertibles that were designed to include those safety belt systems. However, Fiat asserted that the steps needed to modify an existing convertible design to accept the upper anchorages for rear seat lap/shoulder belts "would be financially intolerable." Fiat asked that this final rule be structured to provide an exemption for at least two years for existing convertible designs "which cannot be made to comply without extreme economic and technical hardships." NHTSA has not done so. Section 123 of the Safety Act (15 U.S.C. 1410) and 49 CFR Part 555 set forth procedures for obtaining temporary exemptions from any of the generally applicable re-

quirements set forth in the safety standards. If Fiat is statutorily eligible for such an exemption and can make the requisite showings, it can obtain the temporary exemption it seeks in accordance with those statutory and regulatory requirements.

b. Readily Removable Seats. In the NPRM for this rule, the agency summarized Ford's comment to the ANPRM asserting that lap/shoulder belts installed for readily removable seats should be permitted to be nonintegral, since that would be more convenient for persons using the vehicle especially with the seats removed. NHTSA concurred with this assertion, but noted that permitting detachable shoulder belts would result in lower usage of the shoulder belts and lower safety benefits for this rule. The agency suggested that manufacturers are capable of designing an integral lap/shoulder belt system that is nearly as convenient as safety belt systems with nonintegral shoulder belts. The NPRM suggested: "For instance, a shoulder belt that is readily detachable at the anchorage could be used for the outboard seating positions." 53 FR 47990, November 29, 1988.

Both Ford and GM suggested in their comments that permitting belts to be detachable at the upper anchorage would ease the problems of providing integral lap/shoulder belts at outboard seating positions of readily removable seats. However, both these commenters also stated that a March 1, 1985 interpretation letter from NHTSA's Chief Counsel to Mr. Hiroshi Shimizu of Tokai Rika Co. appeared to state that the provisions of Standard No. 208 forbid the use of a lap/shoulder safety belt that is detachable at the upper anchorage.

Mr. Shimizu provided a diagram with his letter that illustrated the safety belt design in question. This diagram showed two reasons why this design would not comply with the requirements of Standard No. 208. First, because of the location of the retractor and the separate buckles for the lap and shoulder belt portions of this belt system, an occupant could release the shoulder belt buckle and use this system solely as a lap belt with no dangling shoulder belt webbing to alert the occupant to the need to fasten the shoulder belt buckle. Alternatively, an occupant could release the lap belt buckle and use the system solely as a shoulder belt with no dangling webbing to alert the occupant to the need to fasten the lap belt buckle. NHTSA stated that this design would not satisfy the requirement in S4.1.2.3.1 and S4.2.2 of Standard No. 208 the *non-detachable* shoulder belts be provided on some belt assemblies.

Second, section S7.2 of Standard No. 208 requires that the latch mechanism of seat belt assemblies shall release both lap and shoulder belt simultaneously and release at a single point by a pushbutton action. When both the lap and shoulder belt portions of Mr. Shimizu's

design were buckled, the occupant would have to release both buckles to get out of the belt system. Hence, this belt system could not comply with Standard No. 208 because the release from the lap and shoulder belt would not be simultaneous, nor would it be at a single point.

NHTSA does not believe that the Shimizu interpretation forecloses all safety belt system designs that detach at the upper anchorage. The language of section S7.2 plainly requires that any such safety belt system must use a single, pushbutton buckle that releases the occupant from the lap belt and shoulder belt simultaneously. There is nothing inherent in the design of a safety belt system detachable at the upper anchorage that makes it impossible to comply with these requirements. Similarly, a shoulder belt could be detachable at the upper anchorage without incorporating an additional point at which the belt could be released by the seat occupant, such as the buckle in Mr. Shimizu's design. For example, manufacturers could install some type of spring operated "dog leash" device that would not be equipped with a push button release mechanism. By a "dog leash" device, NHTSA is referring to a device that does not use any form of push button release. Such devices rely on other actions such as a slide button or slide collar to mechanically uncouple the belt system from the upper anchorage. Such a design would not be prohibited by Standard No. 208 nor anything in the Shimizu interpretation. To make this more clear, this rule adopts language in Standard No. 208 expressly stating that vehicles with readily removable rear seats may use a shoulder belt that detaches at the upper anchorage point to meet the requirements for an integral rear-seat lap/shoulder belt.

c. Swivel seats. As previously noted, swivel seats and other seats that can be adjusted to be forward-facing and to face some other direction will be required to provide lap/shoulder belts only when in the forward-facing position and may provide lap-only belts when adjusted to face other directions. The agency had to consider the question of what requirements should be specified for the detachable shoulder belt. NHTSA could have required those belts to be detachable at the upper anchorage point, by establishing requirements such as were established for readily removable seats. However, that would have left the occupant of the swivel seat with webbing in his or her lap every time the occupant adjusted the seat to some position other than forward-facing. The shoulder belt webbing could become soiled, so that the occupant of the swivel seat not use either the lap belt alone or the belt as a lap/shoulder belt.

To prevent this, NHTSA has decided that seats that adjust to be forward-facing and to face in some other direction are the only rear outboard seating positions

that will *not* be required to be equipped with integral lap/shoulder belts. Instead, those seating positions may be equipped with a shoulder belt that is detachable at the latchplate.

However, this rule establishes an additional requirement that any such non-integral shoulder belt portion be equipped with an ELR, so that the shoulder belt portion will be available for use by all occupants of the seat in its retracted position, and will be less likely to become soiled. This will ensure that those occupants of adjustable seating positions that want the added protection of a lap/shoulder belt in these seating positions will have that protection.

The agency acknowledges that this requirement is likely to result in lower shoulder belt use at these seating positions than at other rear outboard seating positions. However, the agency concludes that belt use at these adjustable seating positions would be lower still if the agency were to require that the lap/shoulder belts be integral and the shoulder belt webbing were in the occupant's lap or on the floor of the vehicle. On balance, the agency concludes that the interests of occupants of adjustable rear seating positions will be best served by permitting the shoulder belt portion of the lap/shoulder belt system to be detachable at the buckle, i.e., non-integral, while including a requirement for a shoulder belt retractor so that a lap shoulder belt will always be available for those persons.

7. Comfort and Convenience

The NPRM stated that compliance with the provisions in S7.4.2(a), S7.4.3, S7.4.4, and S7.4.5 of Standard No. 208 is determined with reference to a test dummy for the front seating positions. As noted above, there are no dummy positioning procedures for the rear seating positions, so the agency cannot determine compliance with the comfort and convenience provisions with reference to a test dummy. Additionally, the NPRM announced that the agency has not yet developed any alternative surrogate measurements for comfort and convenience in rear seating positions. As was the case with crash testing requirements discussed above, NHTSA did not believe it would be appropriate to delay this rulemaking to allow the agency to develop a full set of comfort and convenience requirements.

NHTSA noted that the requirements in S7.4.6 for seat belt guides and hardware would apply to rear-seat lap/shoulder belts without proposing any changes to accomplish that. No commenters objected to this result, so safety belts installed in compliance with this rule are subject to those requirements.

The remaining issue in this area concerned tension-relieving devices on rear-seat lap/shoulder belts. In the NPRM, the agency expressed its tentative conclusion that the same considerations should apply to rear

seating positions with tension-relieving devices on safety belts as already apply to front seating positions with tension-relieving devices on safety belts. That is, tension-relieving devices are permitted to be installed on front seat safety belts if vehicles that have tension-relieving devices at those seating positions comply with certain special conditions intended to reduce the likelihood of misuse of tension-relieving devices. Those special conditions are set forth in S7.4.2 as follows:

1. The vehicle owner's manual must include an explanation of how the tension-relieving device works and recommend a maximum amount of slack that should be introduced into the belt under normal circumstances (S7.4.2(b);

2. The vehicle must comply with the injury criteria specified in S5.1 of Standard No. 208 during a barrier crash test with the shoulder belt webbing adjusted to introduce the maximum amount of slack recommended by the manufacturer (S7.4.2(c);

3. The vehicle must have an automatic means to cancel any shoulder belt slack introduced into the belt system by a tension-relieving device (S7.4.2(c).

The NPRM explained that the second requirement listed above could not be applied to rear seat lap/shoulder belts, because the agency could not develop dynamic testing procedures for the rear seating positions at this time. However, the notice proposed to apply the other two requirements listed above to rear-seat lap/shoulder belts equipped with tension-relieving devices.

None of the commenters addressed the proposal to require the vehicle owner's manual to include an explanation of how the tension-relieving device works and a recommendation of the maximum amount of slack to be introduced into the safety belt. Hence, that requirement is adopted as proposed, for the reasons explained in the NPRM.

In its comments, GM objected to the proposed requirement for automatic cancellation of slack. GM indicated that automatic cancellation of slack in front-seat lap/shoulder belts is accomplished by either of two means. If the retractor is mounted on the floor or on the pillar near the adjacent door, the manufacturer generally uses a simple cable, which operates when the door is open to cancel the slack. If there are dual spool retractors on the safety belt system, a simple mechanical device triggered by retraction of the lap belt is used to cancel the slack in the shoulder belt. According to GM, "cable routing concerns" make it difficult to use a cable and the current size of dual spool retractors precludes the use of that technology in rear seating positions. This comment concluded by alleging that only "complex, expensive mechanisms" could be used for slack cancellation in rear seating positions. Ford also suggested in its comments that it would be very complex to develop an automatic means for slack

cancellation. Ford stated that all of its slack cancellation mechanisms are activated by opening the adjacent door. Ford also stated that electric slack cancellation mechanisms would be impracticable for rear-seat lap/shoulder belts.

In response to these comments, NHTSA has re-examined its proposal. That proposal was that slack be automatically cancelled either when the belt is unbuckled *or* when the adjacent door is opened. Although not expressly stated by either GM or Ford, the manufacturers' concern appears to be that there is *no* adjacent door for rear seating positions in many of the vehicles that will be subject to these requirements. The effect of the proposal, then, would be to force manufacturers that chose to install tension-relieving devices in rear-seat lap/shoulder belts for passenger vans, extended cab pickups, and the like, to cancel the slack every time the latchplate is unbuckled, because there is no door adjacent to those seating positions.

The agency did not intend such a result. Instead, the agency's intent was to permit the slack to be cancelled either every time the latchplate was unbuckled or each time the door is opened that is designed to allow the occupant of the seating position in question entry and egress to and from the seat. Thus, if a passenger van has a sliding door on the right side of the vehicle that is designed as the means of entry and egress for all rear seat passengers, slack for rear seat lap/shoulder belts in that van must be cancelled either when that sliding door is opened or when the belt latchplate is unbuckled. Similarly, if a two-door convertible has tension-relieving devices for its rear-seat lap/shoulder belts, slack in the rear-seat lap/shoulder belts must be cancelled either when the latchplate is unbuckled or when the door is opened on the same side of the vehicle as the rear outboard seating position.

This approach will permit manufacturers to use, with appropriate modifications, the same slack cancellation mechanism that is activated by the opening of an adjacent door in seating positions that are not immediately adjacent to the door. The agency is not aware of any reasons why cable routing concerns would present any insuperable difficulties for slack cancellation for the rear-seat lap/shoulder belt systems that are not adjacent to a door. Accordingly, S7.4.2(c) of Standard No. 208 has been amended to provide that slack must be cancelled automatically either when the latchplate is unbuckled or when the door that is designed to provide entry and egress for that seating position is opened.

Both Ford and GM also commented that there was no safety need for automatic cancellation of slack in rear-seat lap/shoulder belts. GM stated that it was not aware of any data showing a safety need for automatic of slack cancellation. Ford commented that there was

no possibility of safety belts getting tangled in the door when there was no door adjacent to the seating position at which the tension-relieving device is installed.

NHTSA has previously explained the safety need for automatic slack cancellation in belts equipped with tension-relieving devices. Persons interested in reviewing those discussions may examine 50 CFR 14580; April 12, 1985 and 54 FR 29047; July 11, 1989. Ford and GM did not raise any new arguments that have not already been considered and rejected by the agency. Accordingly, this rule incorporates a requirement for automatic slack cancellation. NHTSA notes that it is currently reviewing a petition that asks the agency to prohibit tension-relieving devices altogether.

8. Relationship of This Rule to Standard No. 210

As noted in the NPRM, section S4.1.1 of Standard No. 210 provides that seat belt anchorages for a Type 2 seat belt assembly (lap/shoulder belt) shall be installed for each forward-facing outboard designated seating position in passenger cars other than convertibles, and for each designated seating position for which a Type 2 seat belt assembly is required by Standard No. 208 in vehicles other than passenger cars. The NPRM proposed to delete Standard No. 210's exemption for convertibles, because the agency was proposing to amend Standard No. 208 to require rear-seat lap/shoulder belts in convertibles. Obviously, there would be lesser benefits from requiring rear-seat lap/shoulder belts in convertibles if those lap/shoulder belts are not required to be effectively anchored to the vehicle. No commenter objected to this proposal, so it is adopted as proposed.

No amendment is needed to ensure that the rear-seat lap/shoulder belts required in other vehicle types covered by this rule will be effectively anchored to the vehicle. As explained above, the existing language of S4.1.1 of Standard No. 210 automatically requires anchorages for lap/shoulder belts to be provided at seating positions required by Standard No. 208 to have lap/shoulder belts.

9. Timing for Applying These New Requirements

Some of the requirements specified in this rule apply to both the vehicle types addressed exclusively in this rule (convertible passenger cars, light trucks, MPVs, and small buses) and to the vehicle type previously addressed in NHTSA's June 14, 1989 final rule (passenger cars other than convertibles). These requirements include the types of retractors that can be installed on rear-seat lap/shoulder belts and special performance requirements for tension-relieving devices installed on rear seat-lap/shoulder belts.

The NPRM proposed that these general requirements, as well as the new requirement that rear-seat

lap/shoulder belts be installed, apply to the vehicle types addressed exclusively in this rule for all such vehicles manufactured on or after September 1, 1991. None of the commenters has provided any evidence demonstrating that the amount of leadtime would be inadequate. Accordingly, the requirements in this rule will apply to convertible passenger cars, light trucks, MPVs and small buses as of September 1, 1991, as was proposed. Earlier compliance is also permitted and encouraged.

With respect to passenger cars, the June 14, 1989 final rule established certain general requirements applicable to cars manufactured on or after September 1, 1990. These general requirements included a requirement that rear-seat lap/shoulder belts be integral and that the upper anchorage for the rear-seat lap/shoulder belt comply with the location requirements of Standard No. 210. The general requirements of this rule for rear-seat lap/shoulder belts (retractor type and special requirements for tension-relieving devices) will apply on or after September 1, 1991, the same date as the other requirements mandated by this rule take effect. The general requirements of this rule will require greater changes, and thus longer leadtime, than the general requirements announced in the June 14, 1989 rule. Accordingly, passenger cars manufactured on or after September 1, 1991 must comply with the retractor type and tension-relieving device requirements set forth in this rule.

In consideration of the foregoing, 49 CFR Part 571.208 is amended as follows:

S4.1.4 of Standard No. 208 is revised to read as follows:

S4.1.4 Passenger cars manufactured on or after September 1, 1989.

S4.1.4.1 Except as provided in S4.1.4.2, each passenger car manufactured on or after September 1, 1989 shall comply with the requirements of S4.1.2.1. Any passenger car manufactured on or after September 1, 1989 and before September 1, 1993 whose driver's designated seating position complies with the requirements of S4.1.2.1(a) by means not including any type of seat belt and whose right front designated seating position is equipped with a manual Type 2 seat belt so that the seating position complies with the occupant crash protection requirements of S5.1, with the Type 2 seat belt assembly adjusted in accordance with S7.4.2, shall be counted as a vehicle complying with S4.1.2.1. A vehicle shall not be deemed to be in noncompliance with this standard if its manufacturer establishes that it did not know in the exercise of due care that such vehicle is not in conformity with this standard.

S4.1.4.2 (a) Each passenger car, other than a convertible, manufactured before December 11, 1989 may be equipped with, and each passenger car, other than a convertible, manufactured on or after December 11,

1989 and before September 1, 1990 shall be equipped with a Type 2 seat belt assembly at every forward-facing rear outboard designated seating position. Type 2 seat belt assemblies installed pursuant to this provision shall comply with Standard No. 209 (49 CFR 571.209) and with S7.1.1 of this standard.

(b) Except as provided in S4.1.4.2.1, each passenger car other than a convertible manufactured on or after September 1, 1990 and each convertible passenger car manufactured on or after September 1, 1991 shall be equipped with an integral Type 2 seat belt assembly at every forward-facing rear outboard designated seating position. Type 2 seat belt assemblies installed in compliance with this requirement shall comply with Standard No. 209 (49 CFR 571.209) and with S7.2 and S7.2 of this standard. If a Type 2 seat belt assembly installed in compliance with this requirement incorporates any webbing tension-relieving device, the vehicle owner's manual shall include the information specified in S7.4.2(b) of this standard for the tension-relieving device, and the vehicle shall comply with S7.4.2(c) of this standard.

S4.1.4.2.1 Any rear outboard designated seating position with a seat that can be adjusted to be forward-facing and to face some other direction shall either:

(i) meet the requirements of S4.1.4.2 with the seat in any position in which it can be occupied while the vehicle is in motion; or

(ii) when the seat is in its forward-facing position, have a Type 2 seat belt assembly with an upper torso restraint that conforms to S7.1 and S7.2 of this standard and that adjusts by means of an emergency locking retractor that conforms with Standard No. 209 (49 CFR 571.209), which upper torso restraint may be detachable at the buckle, and, when the seat is in any position in which it can be occupied while the vehicle is in motion, have a Type 1 seat belt or the pelvic portion of a Type 2 seat belt assembly that conforms to S7.1 and S7.2 of this standard.

S4.1.4.2.2 Any rear outboard designated seating position with a readily removable seat (that is, a seat designed to be easily removed and replaced by means installed by the manufacturer for that purpose) shall meet the requirements of S4.1.4.2, and may use an upper torso belt that detaches at the upper anchorage point to meet those requirements.

3. A new S4.2.4 is added to Standard No. 208, to read as follows:

S4.2.4 Trucks and multipurpose passenger vehicles manufactured on or after September 1, 1991 with a GVWR of 10,000 pounds or less. Except as provided in S4.2.4.2, each truck and each multipurpose passenger vehicle, except a motor home, manufactured on or after September 1, 1991 that has a gross vehicle weight rating of 10,000 pounds or less shall be equipped with an integral Type 2 seat belt assembly at every forward-

facing rear outboard designated seating position. Type 2 seat belt assemblies installed in compliance with this requirement shall comply with Standard No. 209 (49 CFR 571.209) and with S7.1 and S7.2 of this standard. If a Type 2 seat belt assembly installed in compliance with this requirement incorporates any webbing tension-relieving device, the vehicle owner's manual shall include the information specified in S7.4.2(b) of this standard for the tension-relieving device, and the vehicle shall comply with S7.4.2(c) of this standard.

S4.2.4.1 As used in this section —

(a) “Motor home” means a motor vehicle with motive power that is designed to provide temporary residential accommodations, as evidenced by the presence of at least four of the following facilities: cooking; refrigeration or ice box; self-contained toilet; heating and/or air conditioning; a portable water supply system including a faucet and a sink; and a separate 110-125 volt electrical power supply and/or an LP gas supply.

(b) “Rear outboard designated seating position” means any “outboard designated seating position” (as that term is defined at 49 CFR 571.3) that is rearward of the front seat(s), except any designated seating positions adjacent to a walkway located between the seat and the side of the vehicle, which walkway is designed to allow access to more rearward seating positions.

S4.2.4.2 Any rear outboard designated seating position with a seat that can be adjusted to be forward-facing and to face some other direction shall either:

(i) meet the requirements of S4.2.4 with the seat in any position in which it can be occupied while the vehicle is in motion; or

(ii) when the seat is in its forward-facing position, have a Type 2 seat belt assembly with an upper torso restraint that conforms to S7.1 and S7.2 of this standard and that adjusts by means of an emergency locking retractor that conforms with Standard No. 209 (49 CFR 571.209), which upper torso restraint may be detachable at the buckle, and, when the seat is in any position in which it can be occupied while the vehicle is in motion, have a Type 1 seat belt or the pelvic portion of a Type 2 seat belt assembly that conforms to S7.1 and S7.2 of this standard.

S4.2.4.3 Any rear outboard designated seating position with a readily removable seat (that is, a seat designed to be easily removed and replaced by means installed by the manufacturer for that purpose) shall meet the requirements of S4.2.4, and may use an upper torso belt that detaches at the upper anchorage point to meet those requirements.

4. A new S4.4.3 is added to Standard No. 208, to read as follows:

S4.4 Buses.

* * * * *

S4.4.3 Buses manufactured on or after September 1, 1991.

S4.4.3.1 Each bus with a gross vehicle weight rating of more than 10,000 pounds shall comply with the requirements S4.4.2.1 or S4.4.2.2.

S4.4.3.2 Except as provided in S4.4.3.2.2, each bus with a gross vehicle weight rating of 10,000 pounds or less, except a school bus, shall be equipped with an integral Type 2 seat belt assembly at the driver's designated seating position and at the front and every rear forward-facing outboard designated seating position, and with a Type 1 or Type 2 seat belt assembly at all other designated seating positions. Type 2 seat belt assemblies installed in compliance with this requirement shall comply with Standard No. 209 (49 CFR 571.209) and with S7.1 and S7.2 of this standard. If a Type 2 seat belt assembly installed in compliance with this requirement incorporates any webbing tension-relieving device, the vehicle owner's manual shall include the information specified in S7.4.2(b) of this standard for the tension-relieving device, and the vehicle shall comply with S7.4.2(c) of this standard.

S4.4.3.2.1 As used in this section, a “rear outboard designated position” means any “outboard designated seating position” (as that term is defined at 49 CFR 571.3) that is rearward of the front seat(s), except any designated seating positions adjacent to a walkway located between the seat and the side of the vehicle, which walkway is designed to allow access to more rearward seating positions.

S4.4.3.2.2 Any rear outboard designated seating position with a seat that can be adjusted to be forward-facing and to face some other direction shall either:

(i) meet the requirements of S4.4.3.2 with the seat in any position in which it can be occupied while the vehicle is in motion; or

(ii) when the seat is in its forward-facing position, have a Type 2 seat belt assembly with an upper torso restraint that conforms to S7.1 and S7.2 of this standard and that adjusts by means of an emergency locking retractor that conforms with Standard No. 209 (49 CFR 571.209), which upper torso restraint may be detachable at the buckle, and, when the seat is in any position in which it can be occupied while the vehicle is in motion, have a Type 1 seat belt or the pelvic portion of a Type 2 seat belt assembly that conforms to S7.1 and S7.2 of this standard.

S4.4.3.2.3 Any rear outboard designated seating position with a readily removable seat (that is, a seat designed to be easily removed and replaced by means installed by the manufacturer for that purpose) shall meet the requirements of S4.4.3.2, and may use an upper torso belt that detaches at the upper anchorage point to meet those requirements.

S4.4.3.3 Each school bus with a gross vehicle weight rating of 10,000 pounds or less shall be equipped with an integral Type 2 seat belt assembly at the driver's designated seating position and at the right front passenger's designated seating position (if any), and with a Type 1 or Type 2 seat belt assembly at all other designated seating positions. Type 2 seat belt assemblies installed in compliance with this requirement shall comply with Standard No. 209 (49 CFR 571.209) and with S7.1 and S7.2 of this standard. The lap belt portion of a Type 2 seat belt assembly installed at the driver's designated seating position and at the right front passenger's designated seating position (if any) shall include either an emergency locking retractor or an automatic locking retractor, which retractor shall not retract webbing to the next locking position until at least 3/4 inch of webbing has moved into the retractor. In determining whether an automatic locking retractor complies with this requirement, the webbing is extended to 75 percent of its length and the retractor is locked after the initial adjustment. If a Type 2 seat belt assembly installed in compliance with this requirement incorporates any webbing tension-relieving device, the vehicle owner's manual shall include the information specified in S7.4.2(b) of this standard for the tension-relieving device, and the vehicle shall comply with S7.4.2(c) of this standard.

5. S7.1.1 of Standard No. 208 is amended by revising S7.1.1.3 and by adding a new S7.1.1.5, to read as follows:

S7.1 Adjustment.

* * * *

S7.1.1.3 A Type 1 lap belt or the lap belt portion of any Type 2 seat belt assembly installed at any outboard designated seating position of a vehicle with a gross vehicle weight rating of 10,000 pounds or less to comply with a requirement of this standard, except walk-in van-type vehicles and school buses, shall meet the requirements of S7.1 by means of any emergency locking retractor that conforms to Standard No. 209 (49 CFR 571.209).

* * * *

S7.1.1.5 Seat belt assemblies installed at a seating position other than the driver's position that incorporate an emergency locking retractor in the lap belt or the lap belt portion of a Type 2 seat belt assembly shall provide some means other than an external device that requires manual attachment or activation to lock the lap belt or lap belt portion, by preventing additional webbing from spooling out, so that the seat belt assembly can be used to tightly secure a child restraint system.

6. S7.4.2 of Standard No. 208 is amended by revising the introductory text and S7.4.2(c), to read as follows:

S7.4.2 Webbing tension-relieving device. Each vehicle with an automatic seat belt assembly or with a Type 2

manual seat belt assembly that must meet the occupant crash protection requirements of S5.1 of this standard installed at a front outboard designated seating position, and each vehicle with a Type 2 manual seat belt assembly installed at a rear outboard designated seating position in compliance with a requirement of this standard, that has either automatic or manual tension-relieving devices permitting the introduction of slack in the webbing of the shoulder belt (e.g., "comfort clips" or "window-shade" devices) shall:

* * * *

(c) Have, except for open-body vehicles with no doors, and automatic means to cancel any shoulder belt slack introduced into the belt system by a tension-relieving device. In the case of an automatic safety belt system, cancellation of the tension-relieving device shall occur each time the adjacent vehicle door is opened. In the case of a manual seat belt required to meet S5.1, cancellation of the tension-relieving device shall occur, at the manufacturer's option, either each time the adjacent door is opened or each time the latchplate is released from the buckle. In the case of a Type 2 manual seat belt assembly installed at a rear outboard designated seating position, cancellation of the tension-relieving device shall occur, at the manufacturer's option either each time the door designed to allow the occupant of that seating position entry and egress of the vehicle is opened or each time the latchplate is released from the buckle. In the case of open-body vehicles with no doors, cancellation of the tension-relieving device may be done by a manual means.

§571.210 [Amended]

7. S4.1.1 of Standard No. 210 is revised to read as follows:

S4.1.1 Seat belt anchorages for a Type 2 seat belt assembly shall be installed for each forward-facing outboard designated seating position in passenger cars other than convertibles and for each designated seating position for which a Type 2 seat belt assembly is required by Standard No. 208 (49 CFR 571.208) in vehicles other than passenger cars. Seat belt anchorages for a Type 2 seat belt assembly shall be installed for each rear forward-facing outboard designated seating position in convertible passenger cars manufactured on or after September 1, 1991.

§571.222 [Amended]

8. S5(b) of Standard No. 222 is revised to read as follows:

S5. Requirements. (a) * * *

(b) Each vehicle with a gross vehicle weight rating of 10,000 pounds or less shall be capable of meeting the following requirements at all seating positions other than the driver's seat:

(1)(A) In the case of vehicles manufactured before September 1, 1991, the requirements of §§571.208,

571.209, and 571.210 as they apply to multipurpose passenger vehicles; or

(B) In the case of vehicles manufactured on or after September 1, 1991, the requirements of S4.4.3.3. of §571.208 and the requirements of §§571.209 and 571.210 as they apply to school buses with a gross vehicle weight rating of 10,000 pounds or less; and

(2) The requirements of S5.1.2, S5.1.3, S5.1.4, S5.1.5, and S5.3 of this standard. However, the requirements of §§571.208 and 571.210 shall be met at W seating positions in a bench seat using a body block as specified in Figure 2 of this standard, and a particular school bus passenger seat (i.e., a test specimen) in that weight class need not meet further requirements after having

met S5.1.2 and S5.1.5, or after having been subjected to either S5.1.3, S5.1.4, or S5.3 of this standard or §571.210.

* * * * *

Issued on: October 27, 1989.

Jeffrey R. Miller
Acting Administrator

54 F.R. 46257
November 2, 1989

MOTOR VEHICLE SAFETY STANDARD NO. 222

School Bus Seating and Crash Protection

S1. Scope. This standard establishes occupant protection requirements for school bus passenger seating and restraining barriers.

S2. Purpose. The purpose of this standard is to reduce the number of deaths and the severity of injuries that result from the impact of school bus occupants against structures within the vehicle during crashes and sudden driving maneuvers.

S3. Application. This standard applies to school buses.

S4. Definitions. "Contactable surface" means any surface within the zone specified in S5.3.1.1 that is contactable from any direction by the test device described in S6.6, except any surface on the front of a seat back or restraining barrier 3 inches or more below the top of the seat back or restraining barrier.

"School bus passenger seat" means a seat in a school bus, other than the driver's seat or a seat installed to accommodate handicapped or convalescent passengers as evidenced by orientation of the seat in a direction that is more than 45 degrees to the left or right of the longitudinal centerline of the vehicle.

S4.1 The number of seating positions considered to be in a bench seat is expressed by the symbol W, and calculated as the bench width in inches divided by 15 and rounded to the nearest whole number.

S5. Requirements. (a) Each vehicle with a gross vehicle weight rating of more than 10,000 pounds shall be capable of meeting any of the requirements set forth under this heading when tested under the conditions of S6. However, a particular school bus passenger seat (i.e., test specimen) in that weight class need not meet further requirements after having met S5.1.2 and S5.1.5, or having been subjected to either S5.1.3, S5.1.4, or S5.3.

(b) [Each vehicle with a gross vehicle weight rating of 10,000 pounds or less shall be capable of meeting the following requirements at all seating positions other than the driver's seat:

(1)(A) In the case of vehicles manufactured before September 1, 1991, the requirements of §§ 571.208, 571.209, and 571.210 as they apply to multipurpose passenger vehicles; or

(B) In the case of vehicles manufactured on or after September 1, 1991, the requirements of S4.4.3.3 of § 571.208 and the requirements of §§ 571.209 and 571.210 as they apply to school buses with a gross vehicle weight rating of 10,000 pounds or less; and

(2) The requirements of S5.1.2, S5.1.3, S5.1.4, S5.1.5, and S5.3 of this standard. However, the requirements of §§ 571.208, and 571.210 shall be met at W seating positions in a bench seat using a body block as specified in Figure 2 of this standard, and a particular school bus passenger seat (i.e., a test specimen) in that weight class need not meet further requirements after having met S5.1.2 and S5.1.5, or after having been subjected to either S5.1.3, S5.1.4, or S5.3 of this standard of § 571.210. 54 F.R. 46257—November 2, 1989. Effective: May 1, 1990)]

S5.1 Seating requirements. School bus passenger seats shall be forward facing.

S5.1.1 [Reserved]

S5.1.2 Seat back height and surface area. Each school bus passenger seat shall be equipped with a seat back that, in the front projected view, has a front surface area above the horizontal plane that passes through the seating reference point, and below the horizontal plane 20 inches above the seating reference point, of not less than 90 percent of the seat bench width in inches multiplied by 20.

S5.1.3 Seat performance forward. When a school bus passenger seat that has another seat

behind it is subjected to the application of force as specified in S5.1.3.1 and S5.1.3.2, and subsequently, the application of additional force to the seat back as specified in S5.1.3.3 and S5.1.3.4:

(a) The seat-back force/deflection curve shall fall within the zone specified in Figure 1;

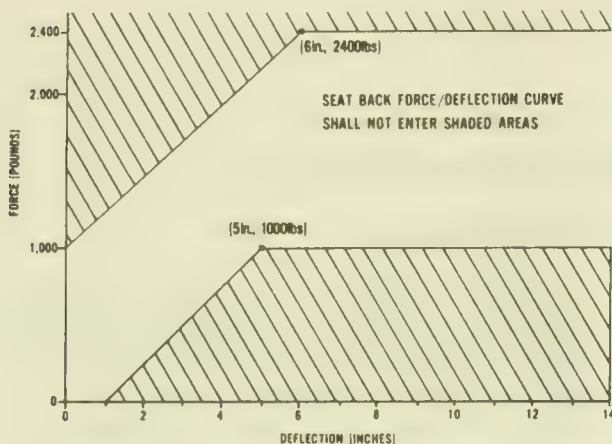


FIGURE 1 - FORCE/DEFLECTION ZONE

(b) Seat back deflection shall not exceed 14 inches; (for determination of (a) and (b) the force/deflection curve describes only the force applied through the upper loading bar, and only the forward travel of the pivot attachment point of the upper loading bar, measured from the point at which the initial application of 10 pounds of force is attained.)

(c) The seat shall not deflect by an amount such that any part of the seat moves to within 4 inches of any part of another school bus passenger seat or restraining barrier in its originally installed position;

(d) The seat shall not separate from the vehicle at any attachment point; and

(d) Seat components shall not separate at any attachment point.

S5.1.3.1 Position the loading bar specified in S6.5 so that it is laterally centered behind the seat back with the bar's longitudinal axis in a transverse plane of the vehicle and in any horizontal plane between 4 inches above and 4 inches below the seating reference point of the school bus passenger seat behind the test specimen.

S5.1.3.2 Apply a force of 700W pounds horizontally in the forward direction through the loading bar at the pivot attachment point. Reach

the specified load in not less than 5 nor more than 30 seconds.

S5.1.3.3 No sooner than 1.0 second after attaining the required force, reduce that force to 350W pounds and, while maintaining the pivot point position of the first loading bar at the position where the 350W pounds is attained, position a second loading bar described in S6.5 so that it is laterally centered behind the seat back with the bar's longitudinal axis in a transverse plane of the vehicle and in the horizontal plane 16 inches above the seating reference point of the school bus passenger seat behind the test specimen, and move the bar forward against the seat back until a force of 10 pounds has been applied.

S5.1.3.4 Apply additional force horizontally in the forward direction through the upper bar until 4,000W inch-pounds of energy have been absorbed in deflecting the seat back (or restraining barrier). Apply the additional load in not less than 5 seconds nor more than 30 seconds. Maintain the pivot attachment point in the maximum forward travel position for not less than 5 seconds nor more than 10 seconds and release the load in not less than 5 nor more than 30 seconds. (For the determination of S5.1.3.4 the force/deflection curve describes only the force applied through the upper loading bar, and the forward and rearward travel distance of the upper loading bar pivot attachment point measured from the position at which the initial application of 10 pounds of force is attained.)

S5.1.4 Seat performance rearward. When a school bus passenger seat that has another seat behind it is subjected to the application of force as specified in S5.1.4.1 and S5.1.4.2:

(a) Seat back force shall not exceed 2,200 pounds;

(b) In the case of a school bus manufactured on or after April 1, 1978, seat back deflection shall not exceed 10 inches; (For determination of (a) and (b) the force/deflection curve describes only the force applied through the loading bar, and only the rearward travel of the pivot attachment point of the loading bar, measured from the point at which the initial application of 50 pounds of force is attained.

(c) The seat shall not deflect by an amount such that any part of the seat moves to within 4 inches of any part of another passenger seat in its originally installed position;

(d) The seat shall not separate from the vehicle at any attachment point; and

(e) Seat components shall not separate at any attachment point.

S5.1.4.1 Position the loading bar described in S6.5 so that it is laterally centered forward of the seat back with the bar's longitudinal axis in a transverse plane of the vehicle and in the horizontal plane 13.5 inches above the seating reference point of the test specimen, and move the loading bar rearward against the seat back until a force of 50 pounds has been applied.

S5.1.4.2 Apply additional force horizontally rearward through the loading bar until 2,800W inch-pounds of energy have been absorbed in deflecting the seat back. Apply the additional load in not less than 5 seconds nor more than 30 seconds. Maintain the pivot attachment point in the maximum rearward travel position for not less than 5 seconds nor more than 10 seconds and release the load in not less than 5 seconds nor more than 30 seconds. (For determination of S5.1.4.2 the force/deflection curve describes the force applied through the loading bar and the rearward and forward travel distance of the loading bar pivot attachment point measured from the position at which the initial application of 50 pounds of force is attained.)

S5.1.5 Seat cushion retention. In the case of school bus passenger seats equipped with seat cushions, with all manual attachment devices between the seat and the seat cushion in the manufacturer's designed position for attachment, the seat cushion shall not separate from the seat at any attachment point when subjected to an upward force of five times the seat cushion weight, applied in any period of not less than 1 nor more than 5 seconds, and maintained for 5 seconds.

S5.2 Restraining barrier requirements. Each vehicle shall be equipped with a restraining barrier forward of any designated seating position that does not have the rear surface of another

school bus passenger seat within 20 inches of its seating reference point, measured along a horizontal longitudinal line through the seating reference point in the forward direction.

S5.2.1 Barrier-seat separation. The horizontal distance between the restraining barrier's rear surface and the seating reference point of the seat in front of which it is required shall be not more than 20 inches, measured along a horizontal longitudinal line through the seating reference point in the forward direction.

S5.2.2 Barrier position and rear surface area. The position and rear surface area of the restraining barrier shall be such that, in a front projected view of the bus, each point of the barrier's perimeter coincides with or lies outside of the perimeter of the seat back of the seat for which it is required.

S5.2.3 Barrier performance forward. When force is applied to the restraining barrier in the same manner as specified in S5.1.3.1 through S5.1.3.4 for seating performance tests:

(a) The restraining barrier force/deflection curve shall fall within the zone specified in Figure 1;

(b) Restraining barrier deflection shall not exceed 14 inches; (For computation of (a) and (b) the force/deflection curve describes only the force applied through the upper loading bar, and only the forward travel of the pivot attachment point of the loading bar, measured from the point at which the initial application of 10 pounds of force is attained.)

(c) Restraining barrier deflection shall not interfere with normal door operation;

(d) The restraining barrier shall not separate from the vehicle at any attachment point; and

(e) Restraining barrier components shall not separate at any attachment point.

S5.3 Impact zone requirements.

S5.3.1 Head protection zone. Any contactable surface of the vehicle within any zone specified in S5.3.1.1 shall meet the requirements of S5.3.1.2 and S5.3.1.3. However, a surface area that has been contacted pursuant to an impact test need not meet further requirements contained in S5.3.

S5.3.1.1 The head protection zones in each vehicle are the spaces in front of each school bus passenger seat which are not occupied by bus sidewall, window, or door structure and which, in relation to that seat and its seating reference point, are enclosed by the following planes;

(a) Horizontal planes 12 inches and 40 inches above the seating reference point;

(b) A vertical longitudinal plane tangent to the inboard (aisle side) edge of the seat;

(c) A vertical longitudinal plane 3.25 inches inboard of the outboard edge of the seat, and

(d) Vertical transverse planes through and 30 inches forward of the reference point.

S5.3.1.2 Head form impact requirement. When any contactable surface of the vehicle within

the zones specified in S5.3.1.1 is impacted from any direction at 22 feet per second by the head form described in S6.6, the axial acceleration at the center of gravity of the head form shall be such that the expression

$$\left[\frac{1}{(t_2 - t_1)} \int_{t_1}^{t_2} a dt \right]^{2.5} (t_2 - t_1)$$

shall not exceed 1,000 where a is the axial acceleration expressed as a multiple of g (the acceleration due to gravity), and t_1 and t_2 are any two points in time during the impact.

S5.3.1.3 Head form force distribution. When any contactable surface of the vehicle within the zones specified in S5.3.1.1 is impacted from any direction at 22 feet per second by the head form

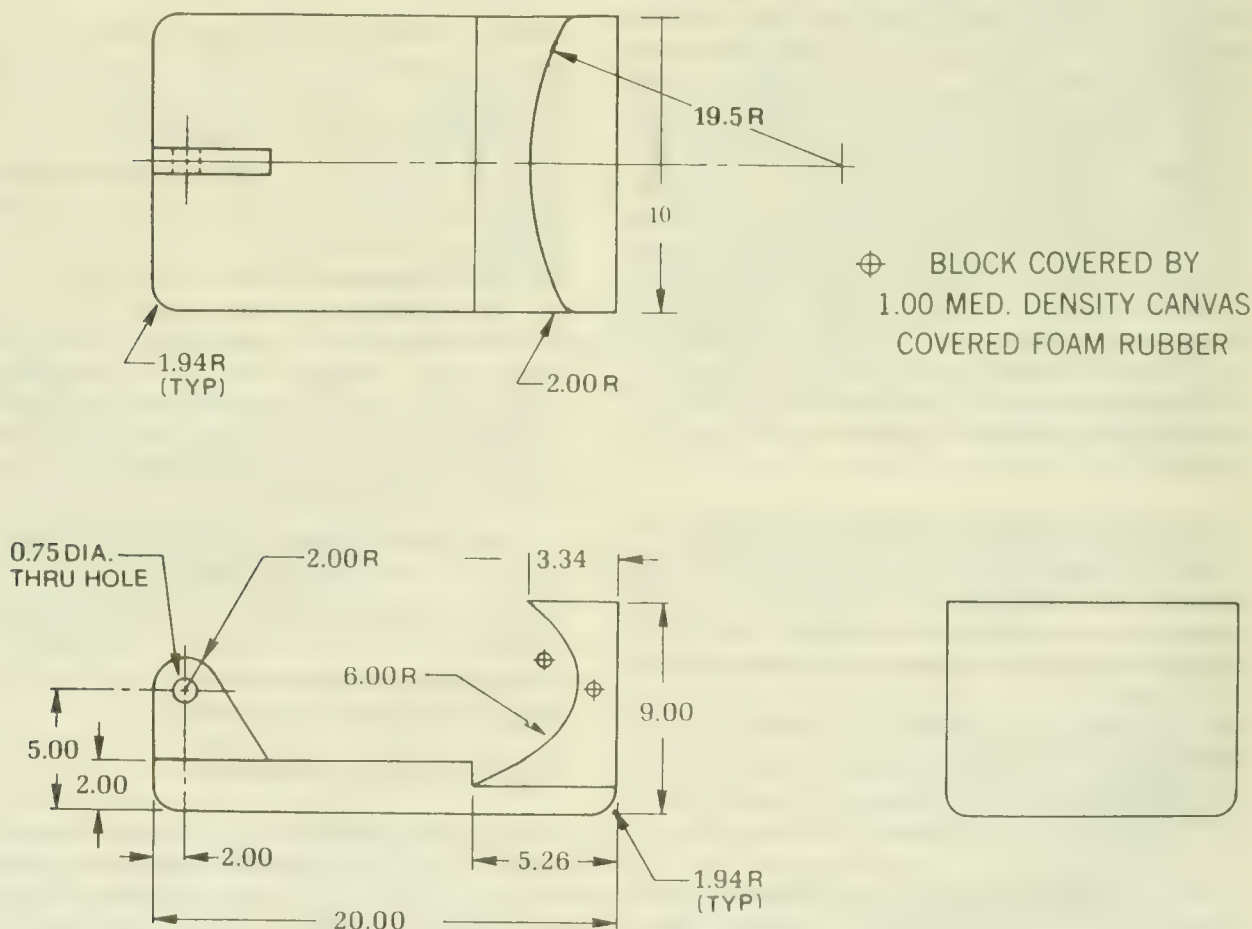


FIGURE 2—BODY BLOCK FOR LAP BELT
PART 571; S 222-4

described in S6.6, the energy necessary to deflect the impacted material shall be not less than 40 inch-pounds before the force level on the head form exceeds 150 pounds. When any contactable surface within such zones is impacted by the head form from any direction at 5 feet per second, the contact area on the head form surface shall be not less than 3 square inches.

S5.3.2 Leg protection zone. Any part of the seat backs or restraining barriers in the vehicle within any zone specified in S5.3.2.1 shall meet the requirements of S5.3.2.2.

S5.3.2.1. The leg protection zones of each vehicle are those parts of the school bus passenger seat backs and restraining barriers bounded by horizontal planes 12 inches above and 4 inches below the seating reference point of the school bus passenger seat immediately behind the seat back or restraining barrier.

S5.3.2.2. When any point on the rear surface of that part of a seat back or restraining barrier within any zone specified in S5.3.2.1 is impacted from any direction at 16 feet per second by the knee form specified in S6.7, the resisting force of the impacted material shall not exceed 600 pounds and the contact area on the knee form surface shall not be less than 3 square inches.

S6. Test conditions. The following conditions apply to the requirements specified in S5.

S6.1 Test surface. The bus is at rest on a level surface.

S6.2 Tires. Tires are inflated to the pressure specified by the manufacturer for the gross vehicle weight rating.

6.3 Temperature. The ambient temperature is any level between 32 degrees F. and 90 degrees F.

S6.4 Seat back position. If adjustable, a seat back is adjusted to its most upright position.

S6.5 Loading bar. The loading bar is a rigid cylinder with an outside diameter of 6 inches that has hemispherical ends with radii of 3 inches and with a surface roughness that does not exceed 63 micro-inches, root mean square. Then length of the loading bar is 4 inches less than the

width of the seat back in each test. The stroking mechanism applies force through a pivot attachment at the centerpoint of the loading bar which allows the loading bar to rotate in a horizontal plane 30 degrees in either direction from the transverse position.

S6.5.1 A vertical or lateral force of 4,000 pounds applied externally through the pivot attachment point of the loading bar at any position reached during a test specified in this standard shall not deflect that point more than 1 inch.

S6.6 Head form. The head form for the measurement of acceleration is a rigid surface comprised of two hemispherical shapes, with total equivalent weight of 11.5 pounds. The first of the two hemispherical shapes has a diameter of 6.5 inches. The second of the two hemispherical shapes has a 2 inch diameter and is centered as shown in Figure 3 to protrude from the outer surface of the first hemispherical shape. The surface roughness of the hemispherical shapes does not exceed 63 micro-inches, root mean square.

S6.6.1 The direction of travel of the head form is coincidental with the straight line connecting the centerpoints of the two spherical outer surfaces which constitute the head form shape.

S6.6.2 The head form is instrumented with an acceleration sensing device whose output is recorded in a data channel that conforms to the requirements for a 1,000 Hz channel class as specified in SAE Recommended Practice J211a, December 1971. The head form exhibits no resonant frequency below three times the frequency of the channel class. The axis of the acceleration sensing device coincides with the straight line connecting the centerpoints of the two hemispherical outer surfaces which constitute the head form shape.

S6.6.3 The head form is guided by a stroking device so that the direction of travel of the head form is not affected by impact with the surface being tested at the levels called for in the standard.

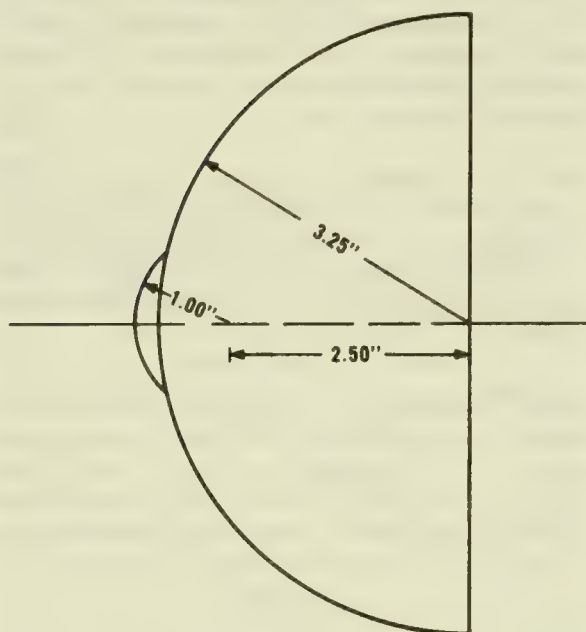


FIGURE 3

S6.7 Knee form. The knee form for measurement of force is a rigid 3-inch-diameter cylinder, with an equivalent weight of 10 pounds, that has one rigid hemispherical end with a $1\frac{1}{2}$ inch

radius forming the contact surface of the knee form. The hemispherical surface roughness does not exceed 63 micro-inches, root mean square.

S6.7.1 The direction of travel of the knee form is coincidental with the centerline of the rigid cylinder.

S6.7.2 The knee form is instrumented with an acceleration sensing device whose output is recorded in a data channel that conforms to the requirements of a 600 Hz channel class as specified in the SAE Recommended Practice J211a, December 1971. The knee form exhibits no resonant frequency below three times the frequency of the channel class. The axis of the acceleration sensing device is aligned to measure acceleration along the centerline of the cylindrical knee form.

S6.7.3 The knee form is guided by a stroking device so that the direction of travel of the knee form is not affected by impact with the surface being tested at the levels called for in the standard.

S6.8 The head form, knee form, and contactable surfaces are clean and dry during impact testing.

41 F.R. 4016

January 28, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301

Fuel System Integrity

(Docket No. 70-20; Notice 2)

This notice amends Motor Vehicle Safety Standard No. 301 on fuel system integrity to specify static rollover requirements applicable to passenger cars on September 1, 1975, and to extend applicability of the standard to multipurpose passenger vehicles, trucks, and buses with a GVWR of 10,000 pounds or less on September 1, 1976.

The NHTSA proposed amending 49 CFR 571.301, *Fuel Tanks, Fuel Tank Filler Pipes, and Fuel Tank Connections*, on August 29, 1970, (35 F.R. 13799). Under the proposal the standard would be extended to all vehicles with a GVWR of 10,000 pounds or less. No fuel spillage would be permitted during the standard's tests. As proposed, these would include a spike stop from 60 mph, and a 30 mph frontal barrier crash. Additional tests for vehicles with a GVWR of 6,000 pounds or less would include a rear-end collision with a fixed barrier at 30 mph, and a static rollover test following the frontal barrier crash. With respect to the proposal: the frontal impact and static rollover tests are adopted but with an allowance of fuel spillage of 1 ounce per minute; the spike stop test is not adopted; and the rear-end fixed barrier collision test is being repropose in a separate rule making action published today to substitute a moving barrier.

The proposal that there be zero fuel spillage was almost universally opposed for cost/benefit reasons. The NHTSA has concluded that the requirement adopted, limiting fuel spillage to 1 ounce per minute, will have much the same effect as a zero-loss requirement. The standard will effectively require motor vehicles to be designed for complete fuel containment, since any spillage allowed by design in the aftermath of

testing could well exceed the limit of the standard. At the same time, the 1-ounce allowance would eliminate concern over a few drops of spillage that in a functioning system may be unavoidable.

Fuel loss will be measured for a 15-minute period for both impact and rollover tests.

The NHTSA proposed a panic-braking stop from 60 mph to demonstrate fuel system integrity. Many commented that this appeared superfluous, increasing testing costs with no performance improvements, since the proposed front and rear impact tests represented considerably higher deceleration loadings than could be achieved in braking. The NHTSA concurs, and has not adopted the panic stop test. The frontal barrier crash at 30 mph has been retained for passenger cars, and extended to multipurpose passenger vehicles, trucks, and buses with a GVWR of 10,000 pounds or less as of September 1, 1976.

The static rollover test was adopted as proposed. It applies to passenger cars as of September 1, 1975, and to multipurpose passenger vehicles, trucks, and buses with a GVWR of 6,000 pounds or less, as of September 1, 1976. The rollover test follows the front barrier crash, and consists of a vehicle being rotated on its longitudinal axis at successive increments of 90°. A condition of the test is that rotation between increments occurs in not less than 1 minute and not more than 3 minutes. After reaching a 90° increment, the vehicle is held in that position for 5 minutes.

The proposed rear-end crash test incorporated a fixed collision barrier. Manufacturers generally favored a moving barrier impact as a closer

simulation of real world conditions. The NHTSA concurs and is not adopting a rear end fixed barrier test. Instead, it is proposing a rear-end moving barrier collision test as part of the notice of proposed rulemaking published today.

Under the proposal the vehicle would be loaded to its GVWR with the fuel tank filled to any level between 90 and 100 percent of capacity. Many commenters objected on the grounds that full loading of a vehicle represents an unrealistic condition in terms of actual crash experience. The NHTSA does not agree. Although full loading of a vehicle is not the condition most frequently encountered, it certainly occurs frequently enough that the vehicle should be designed to give basic protection in that condition. The vehicle test weight condition has been adopted as proposed. It should be noted that, in the parallel notice of proposed rulemaking issued today, vehicles would be tested under the

weight conditions specified in Standard No. 208, effective September 1, 1975.

In consideration of the foregoing, 49 CFR Part 571.301, Motor Vehicle Safety Standard No. 301, is amended

Effective date: September 1, 1975. Because of the necessity to allow manufacturers sufficient production leadtime it is found for good cause shown that an effective date later than 1 year after issuance of this rule is in the public interest.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1407; delegation of authority at 49 CFR 1.51.)

Issued on August 15, 1973.

James B. Gregory
Administrator

38 F.R. 22397
August 20, 1973

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301**Fuel System Integrity****(Docket No. 73-20; Notice 2)**

The purpose of this notice is to amend Federal Motor Vehicle Safety Standard No. 301, *Fuel System Integrity*, to upgrade substantially the requirements of the standard by specifying a rear moving barrier crash, a lateral moving barrier crash, and a frontal barrier crash including impacts at any angle up to 30° in either direction from the perpendicular.

A notice of proposed rulemaking published August 20, 1973 (38 F.R. 22417) proposed the imposition of additional testing requirements designed to ameliorate the dangers associated with fuel spillage following motor vehicle accidents. In an amendment to Standard No. 301, published on the same day as the proposal, a frontal barrier crash and a static rollover test were specified. In order to ensure the safety of fuel systems in any possible collision situation, the NHTSA finds it essential to incorporate additional proposed test requirements into the present standard and to make these requirements applicable to all vehicle types with a GVWR of 10,000 pounds or less.

Comments in response to the proposal were received from 29 commenters. Any suggestions for changes of the proposal not specifically mentioned herein are denied, on the basis of all the information presently available to this agency. A number of the issues raised in the comments have been dealt with by the agency in its response to the petitions for reconsideration of the final rule issued on August 20, 1973. In its notice responding to the petitions, the NHTSA considered objections to the use of actual fuel during testing, the specified fuel fill level, the application of the standard to vehicles using diesel fuel, the fuel spillage measuring requirement, and the allegedly more stringent loading requirements

applicable to passenger cars. The type of fuel subject to the standard was also clarified.

Objections were registered by 13 commenters to the proposed inclusion of a dynamic rollover test in the fuel system integrity standard. As proposed, the requirement calls for a measurement of the fuel loss while the vehicle is in motion. Commenters pointed out the exceptional difficulty in measuring or even ascertaining a leakage when the vehicle is rolling over at 30 mph. The NHTSA has decided that the objections have merit, and has deleted the dynamic rollover test. The results of the dynamic rollover do not provide sufficiently unique data with regard to the fuel system's integrity to justify the cost of developing techniques for accurately measuring spillage during such a test, and of conducting the test itself. The NHTSA has concluded that the severity of the other required tests, when conducted in the specified sequence, is sufficient to assure the level of fuel system integrity intended by the agency.

Triumph Motors objected to the use of a 4,000-pound barrier during the moving barrier impacts, asserting that such large barriers discriminate against small vehicles. Triumph requested that the weight of the barrier be the curb weight of the vehicle being tested in order to alleviate the burden on small vehicles. The NHTSA has concluded that no justification exists for this change. The moving barrier is intended to represent another vehicle with which the test vehicle must collide. The use of a 4,000-pound moving barrier is entirely reasonable since vehicles in use are often over 4,000 pounds in weight and a small vehicle is as likely to collide with a vehicle of that size as one smaller. The NHTSA considers it important that vehicle fuel systems be

designed in such a way as to withstand impacts from vehicles they are exposed to on the road, regardless of the differences in their sizes.

Jeep and American Motors objected to the effective dates of the proposed requirements and asked that they be extended. Jeep favors an effective date not earlier than September 1, 1979, and American Motors favors a September 1, 1978, effective date. The NHTSA denies these requests. It has found that the time period provided for development of conforming fuel systems is reasonable and should be strictly adhered to considering the urgent need for strong and resilient fuel systems.

Several commenters expressed concern over the impact of the prescribed testing procedures on manufacturers of low-volume specialty vehicles. The NHTSA appreciates the expense of conducting crash tests on low-production vehicles, realizing that the burden on the manufacturer is related to the number of vehicles he manufactures. However, there are means by which the small-volume manufacturer can minimize the costs of testing. He can concentrate test efforts on the vehicle(s) in his line that he finds most difficult to produce in conformity with the standard. These manufacturers should also be aware that an exemption from application of the standard is available where fewer than 10,000 vehicles per year are produced and compliance would subject him to substantial financial hardship.

In responding to the petitions for reconsideration of the amendment to Standard No. 301, published August 20, 1973, the NHTSA revised the fuel system loading requirement to specify Stoddard solvent as the fuel to be used during testing. In accordance with that amendment, the proposed requirement that the engine be idling during the testing sequence is deleted. However, electrically driven fuel pumps that normally run when the electrical system in the vehicle is activated shall be operating during the barrier crash tests.

In order to fulfill the intention expressed in the preamble to the proposal, that simultaneous testing under Standards Nos. 208 and 301 be possible, language has been added to subparagraph S7.1.5 of Standard No. 301 specifying the same method of restraint as that required in

Standard No. 208. In its response to petitions for reconsideration of Standard No. 301 (39 F.R. 10586) the NHTSA amended the standard by requiring that each dummy be restrained during testing only by means that are installed in the vehicle for protection at its seating position and that require no action by the vehicle occupant.

Suggestions by several commenters that the application of certain crash tests should be limited to passenger cars in order to maintain complete conformance to the requirements of Standard No. 208 are found to be without merit. Enabling simultaneous testing under several standards, although desirable, is not the most important objective of the safety standards. The NHTSA is aware of the burden of testing costs, and therefore has sought to ease that burden where possible by structuring certain of its standards to allow concurrent testing for compliance. It must be emphasized, however, that the testing requirements specified in a standard are geared toward a particular safety need. Application of the tests proposed for Standard No. 301 to all vehicle types with a GVWR of 10,000 pounds or less is vital to the accomplishment of the degree of fuel system integrity necessary to protect the occupants of vehicles involved in accidents.

No major objections were raised concerning the proposed angular frontal barrier crash, lateral barrier crash, or rear moving barrier crash. On the basis of all information available to this agency, it has been determined that these proposed crash tests should be adopted as proposed.

In consideration of the foregoing, 49 CFR 571.301, Motor Vehicle Safety Standard No. 301, is amended to read as set forth below.

Effective date: September 1, 1975, with additional requirements effective September 1, 1976, and September 1, 1977, as indicated.

(Secs. 103, 119, Pub. L. 89-562, 80 Stat. 718, 15 U.S.C. 1392, 1407; delegation of authority at 49 CFR 1.51.)

Issued on March 18, 1974.

James B. Gregory
Administrator

39 F.R. 10588
March 21, 1974

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301-75

Fuel System Integrity

(Docket No. 73-20; Notice 3)

This notice responds to petitions for reconsideration of the two recent Federal Register notices amending and upgrading Standard No. 301 (39 F.R. 10586; 39 F.R. 10588) and amends the standard in several respects.

On March 21, 1974 two notices were published pertaining to Standard No. 301, *Fuel System Integrity*. One notice (39 F.R. 10586) responded to petitions for reconsideration of an earlier amendment to the standard (38 F.R. 22397), while the other (39 F.R. 10588) substantially upgraded the standard's performance requirements. It was the intention of the NHTSA that the notice upgrading the standard be considered as the final rule and supersede the notice responding to petitions. Hereafter, the notice responding to petitions will be referred to as Notice 1, while the notice upgrading the standard will be referred to as Notice 2.

On October 27, 1974, the Motor Vehicle and Schoolbus Safety Amendments of 1974 (P.L. 93-492) were signed into law. These amendments to the National Traffic and Motor Vehicle Safety Act incorporate Standard No. 301 as it was published in Notice 2 on March 21, 1974. According to the amendment the technical errors which appeared in Notice 2 may be corrected, while future amendments are prohibited from diminishing the level of motor vehicle safety which was established in the notice. The changes contained in this notice conform to these statutory requirements.

Due to an oversight, Notice 2 failed to include two provisions which appeared in Notice 1. The limitation of the standard's application to vehicles which use fuel with a boiling point above 32°F was inadvertently omitted in Notice 2 and is hereby reinstated. Notice 2 also failed to include a provision specifying that vehicles not be

altered during the testing sequences. It was the intent of the NHTSA that damage or other alteration of the vehicle incurred during the barrier crashes not be corrected prior to the static rollover tests. The test requirements are therefore amended to prohibit the alteration of vehicles following each of the specified test impacts.

In order to clarify the manner in which the load is to be distributed during testing of multipurpose passenger vehicles, trucks, and buses, S7.1.5(b) is amended to require that when the weight on one of the axles exceeds its proportional share of the loaded vehicle weight, when the vehicle is loaded only with dummies, the remainder of the required test weight shall be placed on the other axle, so that the weight on the first axle remains the same. The loading specification did not specifically address this contingency.

The requirement that the load be located in the load carrying area of multipurpose passenger vehicles, trucks, and buses during testing is deleted since the agency has determined that such a limitation is consistent with the provision specifying distribution of weight in proportion with the vehicle's gross axle weight ratings.

Petitions for reconsideration were received from eleven petitioners. Although only those comments raising issues found to be significant have been discussed, due consideration has been given to all requests. Any requests not specifically discussed herein are denied.

A substantial number of petitioners objected to the requirement that dummies used during testing be restrained only by passive means installed at the seating positions. Petitioners pointed out that mandatory passive restraint systems proposed in Standard No. 208 have a proposed effective date of September 1, 1976; one year after the September 1, 1975 effective

date set for implementation of Standard 301. This would leave a period of time when most dummies would be involved in testing while totally unrestrained. Renault, Jeep, American Motors, Mercedes-Benz, General Motors, and Ford requested that the dummies be restrained during testing by whatever means, active or passive, are installed at the particular seating positions. To provide otherwise, they argued, would unnecessarily expose the dummies to costly damage when subjected to impacts in an unrestrained condition.

The NHTSA finds petitioners' objections meritorious. Although this agency has determined that reliable test results can be best obtained when occupant weight is included in the vehicle during crash testing, the manner in which that weight is installed is subject to additional considerations. The NHTSA has made clear its desire to enable simultaneous testing under more than one standard where the test requirements are compatible. Standards 301 and 208 both require frontal and lateral barrier crash tests which can be conducted concurrently if the vehicles are loaded uniformly. Since Standard 208 provides for crash testing with dummies in vehicles with passive restraint systems, Standard 301 testing of these same vehicles should be conducted with dummies installed in the seating positions provided under Standard 208. The presence of the passive restraints will protect the dummies from unnecessary damage and the required testing for compliance with both standards can be accomplished simultaneously. Where a vehicle is not equipped with passive restraints, and Standard 208 testing is not mandated, weight equal to that of a 50th percentile test dummy should be secured to the floor pan at the front outboard designated seating positions in the vehicles being tested.

Further concern over the damage to which test dummies might be exposed was manifested by Jeep and American Motors. They petitioned for the removal of the dummies prior to the static rollover tests, arguing that their presence serves no safety-related purpose. The NHTSA has granted the request, on the basis of its determination that the dummies would have little or no effect on the fuel system's integrity during the rollover segment of the test procedure.

Jeep and American Motors further suggested that the standard specify that hardware and instrumentation be removed prior to the static rollover test in order to prevent its damage. This request is denied as unnecessary. Standard No. 301 contains no specification for the inclusion of instrumentation during testing. Any instrumentation present in the vehicle is there by decision of the manufacturer to assist him in monitoring the behavior of the fuel system during testing, and must be installed and utilized in such a manner as not to affect the test results. Therefore, as long as the loading requirements of the standard are met, manufacturers may deal with their instrumentation in any fashion they wish, as long as the test results are unaffected.

Volkswagen urged that unrestrained dummies not be required during the rear moving impact test, citing the absence of such a test in Standard 208 and alleging that the integrity of vehicle fuel systems would not be greatly affected by the presence of dummies. This request is denied. The rear moving barrier crash specified in proposed Standard 207, *Seating Systems*, provides for the installation of dummies in the same seating positions as required for Standard 301, thus permitting simultaneous conduct of the rear barrier crashes required by both standards. In order to obtain realistic and reliable test results, occupant weight must be in vehicles during Standard 301 crash testing. The NHTSA has determined that unrestrained dummies would have, at most, slight vulnerability to damage during rear barrier crash tests, since the impact is such that the seats themselves serve as protective restraint mechanisms. It has therefore been concluded that the best method for including occupant weight during rear barrier crash testing is with test dummies.

Notice 2 specified that the parking brake be engaged during the rear moving barrier crash test. Ford requested in its petition for reconsideration that this requirement be changed in order to enable simultaneous rear barrier crash testing with Standard 207 which provides for disengagement of the parking brake in its recent proposal. The NHTSA has decided to grant Ford's request. The condition of the parking brake during this test sequence would not so significantly affect the test results as to warrant

retention of a requirement that would prevent simultaneous testing.

The Recreational Vehicle Institute objected to the standard, arguing that it was not cost-effective as applied to motor homes. RVI requested that different test procedures be developed for motor home manufacturers. Specifically it objected to what it suggested was a requirement for unnecessary double testing in situations where the incomplete vehicle has already been tested before the motor home manufacturer receives it. RVI expressed the view that the motor home manufacturer should not have to concern himself with compliance to the extent that he must test the entire vehicle in accordance with the standard's test procedures.

The NHTSA has found the requirements of Standard 301 to be reasonable in that they enforce a level of safety that has been determined necessary and provide adequate lead time for manufacturers to develop methods and means of compliance. The National Traffic and Motor Vehicle Safety Act does not require a manufacturer to test vehicles by any particular method. It does require that he exercise due care in assuring himself that his vehicles are capable of satisfying the performance requirements of applicable standards when tested in the manner prescribed. This may be accomplished, however, by whatever means the manufacturer reasonably determines to be reliable. If the final stage manufacturer of a motor home concludes that additional testing by him of the entire vehicle for compliance is unnecessary, and he has exercised due care in completing the vehicle in a manner that continues its conformity to applicable standards, he is under no obligation to repeat the procedures of the standards.

RVI further pressed its contention that the standard is not cost-beneficial by arguing that the agency has not provided specific data indicating a frequency of fuel system fires in motor homes that would justify the costs imposed by the standard.

Sufficient record evidence has been found to support the conclusion that fuel spillage in the types of crashes with which the standard deals is a major safety hazard. The only basis upon which motor home manufacturers could justify

the exception of their vehicles from Standard 301's requirements would be an inherent immunity from gasoline spillage. The standard establishes a reasonable test of a vehicle's ability to withstand impacts without experiencing fuel loss. If a motor home is designed in such a way as to preclude the spillage of fuel during the prescribed test impacts, compliance with the standard should present no significant hardship.

Volkswagen challenged the cost-benefit rationale of the more extensive performance requirements contained in Notice 2, and proposed that only the rear barrier crash be retained, if sufficient data exists to support its inclusion. The agency has carefully considered the issues raised in the Volkswagen petition. As discussed earlier, Standard 301 has been designed to allow testing for its requirements with some of the same barrier crash tests that are required by other standards: 208, 204, 212, and 207. This should reduce substantially the costs of testing to Standard 301, especially when viewed on a cost-per-vehicle basis. The NHTSA has concluded that the changes necessary for vehicles to comply with the standard are practicable and that the need for such increased fuel system integrity is sufficient to justify the costs.

The Recreational Vehicle Institute also urged that the effective date for motor homes be delayed 1 year beyond the date set for application of the standard to other vehicles. RVI contends that a uniform effective date for all manufacturers will create serious problems for the motor home manufacturer who will not have complying incomplete vehicles available to him until the effective date of the standard.

The NHTSA finds RVI's argument lacking in merit. Adequate lead time has been provided in Standard 301 to allow final stage manufacturers of multistage vehicles to become familiar with the requirements and to assure themselves that chassis and other vehicle components are available sufficiently in advance of the effective date to enable timely compliance. The availability of complying incomplete vehicles is a situation that should properly be resolved in the commercial dealings between motor home manufacturers and their suppliers. If the motor home manufacturer is unable to obtain complying in-

complete vehicles far enough in advance of the standard's effective date, he might, for example, work out an arrangement with his supplier whereby the supplier will provide information relating to the manner in which the incomplete vehicle must be completed in order to remain in compliance with all applicable safety standards. The lead time provided in the standards is planned to take into account the needs of persons at each stage of the manufacturing process, including final stage manufacturers.

Jeep, American Motors, and Toyota urged delays in the implementation of various aspects of the standard. Jeep suggested a new schedule for application of the standard's requirements to multipurpose passenger vehicles, trucks, and buses, stating that the current lead time is insufficient to enable completion of necessary design changes and compliance testing. American Motors requested a 1-year delay in the effective date for the static rollover test in order to allow satisfactory completion of the required Environmental Protection Agency 50,000 mile durability test. Once vehicles have completed required EPA testing and certification, their fuel system components cannot be altered. AMC says that it cannot make the design changes necessary for Standard 301 compliance in time to utilize them in this year's EPA tests. AMC also desires a 2-year delay in the frontal angular, rear, and lateral impact tests, alleging that that constitutes the minimum time necessary to produce designs that comply. Toyota asked for a delay in the frontal angular crash test for all passenger vehicles until 1978, in order to allow them sufficient time to develop a satisfactory means of compliance with the specified performance level.

All of these requests are denied. The lead time that has been provided for compliance with Standard 301 is found adequate and reasonable. The rollover requirements have been in rule form for over a year, and the more extensive requirements were proposed more than 3 years in advance of their effective dates. Considering the urgent need for stronger and more durable fuel systems, further delay of the effective dates is not justified. On the basis of all information available, the NHTSA has determined that development of complying fuel systems can be attained in the time allowed. In addition, Con-

gress has expressed in the recently enacted amendments to the National Traffic and Motor Vehicle Safety Act its decision that the effective dates specified in Notice 2 should be strictly adhered to.

Toyota requested that the requirements of the rear moving barrier crash not be imposed on vehicles with station wagon or hatch-back bodies, alleging difficulty in relocation of the fuel tank to an invulnerable position. The request is denied as the NHTSA has determined that satisfaction of the rear barrier crash requirements by station wagons and hatch-backs is practicable and necessary.

Volkswagen raised several objections in its petition to the static rollover test, including assertions that the test does not reflect real world accidents, and that the test procedure is unclear since the direction of rotation is unspecified.

The NHTSA does not consider these arguments to be germane. It is true that the static rollover test, like any "static" test, is not designed as a simulation of the actual behavior of a vehicle in a dynamic crash situation. It is intended rather as a laboratory method of quantitatively measuring the vehicle properties that contribute to safety in a range of crash situations. The NHTSA has found that a vehicle's performance in the static rollover test is directly related to the fuel system integrity that is the goal of the standard, and is an appropriate means of measuring that aspect of performance.

With regard to the direction of rotation, the NHTSA has stipulated that only a certain amount of fuel may escape during a 360° rotation of a vehicle on its longitudinal axis. The vehicle must be capable of meeting this performance level regardless of the direction of its rotation.

British Leyland (in a petition for rulemaking) and Volkswagen requested revision of the aspect of the barrier crash requirement limiting the amount of fuel spillage taking place from impact until motion of the vehicle has ceased. They stated that the current 1-ounce limitation is too difficult to measure in the period while the vehicle is moving and suggested that fuel spillage be averaged over the period from impact until 5 minutes following the cessation of motion.

The NHTSA must deny this request. The purpose of the current limitation on the spillage of fuel during the impact and post-impact motion is to prohibit the sudden loss of several ounces of fuel which might occur, as an example, by the displacement of the filler cap. Simultaneous loss of several ounces of fuel during the impact and subsequent vehicle motion could have a fire-causing potential, because of sparks that are likely to be given off during a skid or metal contact between vehicles.

Chrysler petitioned to have the requirement specifying that the moving barrier be guided during the entire impact sequence deleted in favor of a requirement that would allow the termination of guidance of the barrier immediately prior to impact. They argued that their suggested procedure is more representative of real world impacts.

The request is denied. The condition that there be no transverse or rotational movement of the barrier, which has been in effect since January 1, 1972, eliminates random variations between different tests and therefore makes the standard more repeatable and objective as required by the statute.

Jeep requested clarification that a given vehicle is only required to be subjected to one of the specified barrier impacts followed by a static rollover. This request is granted as it follows the

agency's intent and the standard is not specific on that point. Section S6. is amended to require that a single vehicle need only be capable of meeting a single crash test followed by a static rollover.

American Motors submitted a request that the agency finds repetitious of previous petitions, urging that vehicle fluids be stabilized at ambient temperatures prior to testing. In responding to earlier petitions for reconsideration from MVMA and GM in Notice 1, the NHTSA denied a request for temperature specification, stating that it intended that the full spectrum of temperatures encountered on the road be reflected in the test procedure. That continues to be this agency's position.

In light of the foregoing S3., S6., S6.1, S6.3, S7.1.4, and S7.1.5 of Standard No. 301, *Fuel System Integrity*, (49 CFR 571.301) are amended . . .

Effective date: September 1, 1975, with additional requirements effective September 1, 1976 and September 1, 1977, as indicated.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1407; delegation of authority at 49 CFR 1.51.)

Issued on November 15, 1974.

James B. Gregory
Administrator

39 F.R. 40857
November 21, 1974

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301-75

Fuel System Integrity

(Docket No. 73-20; Notice 6)

This notice amends Standard No. 301, *Fuel System Integrity* (49 CFR 571.301), to specify new loading conditions and to establish a 30-minute fuel spillage measurement period following barrier crash tests.

On April 16, 1975, the NHTSA published a notice (40 F.R. 17036) proposing a revision of the loading conditions and fuel spillage measurement period requirement in Standard 301. The NHTSA also proposed in that notice an extension of the applicability of Standard 301 to school buses with a GVWR in excess of 10,000 pounds. At the request of several Members of Congress, the due date for comments on the school bus proposal was extended to June 26, 1975, and final rulemaking action on it will appear in a later Federal Register notice.

It was proposed that the current 15-minute fuel spillage measurement period be extended to 30 minutes in order to allow more time for leaks to be located and rates of flow to be established. Measurement of fuel loss during only a 15 minute time period is difficult because fuel may be escaping from various parts of the vehicle where it is not readily detectable. Chrysler, American Motors, and General Motors objected to the proposed change and asked that it either not be adopted or that adoption be delayed for one year until September 1, 1976.

The commenters argued that the revision was unnecessary and would involve a change in their testing methods. The NHTSA has fully considered these arguments and does not consider the amendment to prescribe a higher level of performance. It concludes that the 30-minute measurement period is necessary to achieve accurate measurement of fuel loss and assessment of vehicle compliance and accordingly amends

Standard 301 to prescribe the longer period for measurement.

The April 16, 1975, notice also proposed a change in the Standard 301 loading conditions to specify that 50th percentile test dummies be placed in specified seating positions during the frontal and lateral barrier crash tests, and that they be restrained by means installed in the vehicle for protection at the particular seating position. Currently the standard requires (during the frontal and lateral barrier crash tests) ballast weight secured at the specified designated seating positions in vehicles not equipped with passive restraint systems. In vehicles equipped with passive restraints, 50th percentile test dummies are to be placed in the specified seating positions during testing.

In petitions for reconsideration of this amendment to Standard No. 301 (39 F.R. 40857) various motor vehicle manufacturers stated that attachment of such ballast weight to the vehicle floor pans during the barrier crashes would exert unrealistic stresses on the vehicle structure which would not exist in an actual crash. The NHTSA found merit in petitioners' arguments, and its proposed revision of the loading conditions is intended to make the crash tests more representative of real-life situations.

Only Mazda objected to the proposal. It argued that curb weight be prescribed as the loading condition so that it could conduct Standard 301 compliance testing concurrently with testing for Standards No. 212 and 204. The NHTSA does not find merit in Mazda's request as the Standard 301 loading condition is considered necessary to assure an adequate level of fuel system integrity. Since the proposed loading conditions are more stringent than a curb weight

condition, manufacturers could conduct compliance testing for Standards 301, 212, and 204 simultaneously. If the vehicle complied with the requirements of Standards 212 and 204 when loaded according to 301 specifications, the manufacturer presumably could certify the capability of the vehicles to comply with the performance requirements of 212 and 204 when loaded to curb weight. It should be noted that the NHTSA is considering amending Standards 212 and 204 to specify the same loading conditions as proposed for Standard 301.

All other commenters supported immediate adoption of the proposed loading conditions. Therefore, the NHTSA adopts the loading conditions as they were proposed in the April 16, 1975, notice.

In consideration of the foregoing, S5.5 and S7.1.6 of Motor Vehicle Safety Standard No.

301, *Fuel System Integrity* (49 CFR 571.301), are amended to read as follows:

Effective date: Because this amendment revises certain requirements that are part of 49 CFR 571.301-75, Motor Vehicle Safety Standard 301-75, effective September 1, 1975, and creates no additional burden upon any person, it is found for good cause shown that an effective date of less than 180 days after publication is in the public interest.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.51.)

Issued August 1, 1975.

Robert L. Carter
Acting Administrator

40 F.R. 33036
August 6, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301-75**Fuel System Integrity****(Docket No. 73-20; Notice 7)**

This notice responds to a petition for reconsideration of the notice published August 6, 1975 (40 FR 33036), which amended Standard No. 301, *Fuel System Integrity* (49 CFR 571.301), to specify new loading conditions and establish a 30-minute fuel spillage measurement period following a barrier crash test.

American Motors Corporation (AMC) has petitioned for reconsideration of the amendment to S5.5 of Standard No. 301 insofar as it establishes an effective date of September 1, 1975, for the 30-minute fuel spillage requirement. AMC requests that the effective date for the 30-minute fuel spillage measurement time be delayed for 180 days from the date of publication of the rule.

The NHTSA has determined that AMC's petition has merit. AMC argues that the imposition of an effective date 25 days after the publication of the rule is burdensome because the 30-minute spillage requirement is a more stringent requirement than the previous 15-minute requirement and therefore requires additional testing to determine compliance. The NHTSA agrees that 25 days is not enough time to complete the addi-

tional testing. However, the effective date will be postponed 12 months instead of the 6 months requested by AMC so that manufacturers will not have to conduct compliance testing for 1976 model vehicles already certified under the old 15-minute spillage requirement. For these reasons the petition of American Motors Corporation is granted.

In S5.5 of Standard No. 301, *Fuel System Integrity*, (49 CFR 571.301), the amendment of August 6, 1975 (40 FR 33036), changing the term "10-minute period" to "25-minute period" effective September 1, 1975, is hereby made effective September 1, 1976.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.51).

Issued on October 3, 1975.

Gene G. Mannella
Acting Administrator

40 F.R. 47790
October 10, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301-75

Fuel System Integrity

(Docket No. 73-20; Notice 8)

The purpose of this notice is to amend Motor Vehicle Safety Standard No. 301, *Fuel System Integrity* (49 CFR 571.301) to extend the applicability of the standard to school buses with a GVWR in excess of 10,000 pounds. The amendment specifies conditions for a moving contoured barrier crash for school buses in order to determine the amount of fuel spillage following impact.

On October 27, 1974, the Motor Vehicle and Schoolbus Safety Amendments of 1974, amending the National Traffic and Motor Vehicle Safety Act, were signed into law (Pub. L. 93-492, 88 Stat. 1470). Section 103(i)(1)(A) of the Act, as amended, orders the promulgation of a safety standard establishing minimum requirements for the fuel system integrity of school buses. Standard No. 301 currently contains requirements for school buses with a GVWR of 10,000 pounds or less which will become effective beginning September 1, 1976. Larger school buses, which comprise approximately 90 percent of the school bus population, will be included in Standard No. 301 by this amendment.

A proposal to amend Standard No. 301 with respect to school buses, loading conditions, and spillage measurement time was published on April 16, 1975 (40 FR 17036). An amendment to the Standard specifying certain loading conditions and establishing a 30-minute fuel spillage measurement period was published on August 6, 1975 (40 FR 33036). At the request of several members of Congress, the period for comments on the school bus proposals was extended. This notice responds to the comments received with respect to the inclusion of school buses within the requirements of the standard.

Seven manufacturers opposed the requirement of a single impact test by a moving contoured barrier at any point on the school bus body, arguing that such a requirement would necessitate a proliferation of expensive tests in order to ensure compliance at every conceivable point of impact. The NHTSA does not agree. Although not specifying a particular impact point, the test condition allows for testing at the few most vulnerable points of each kind of school bus fuel system configuration. Therefore, only impacts at those points are necessary to determine compliance. On the basis of its knowledge of the bus design, a manufacturer should be able to make at least an approximate determination of the most vulnerable points on the bus body.

Two school bus body manufacturers requested a requirement that the manufacturer who installs the fuel system be responsible for compliance testing, while one chassis manufacturer argued that responsibility for compliance should rest with the final manufacturer. In most cases, if the basic fuel system components are included in the chassis as delivered by its manufacturer, the multistage vehicle regulations of 49 CFR Part 568 require the chassis manufacturer at least to describe the conditions under which the completed vehicle will conform, since it could not truthfully state that the design of the chassis has no substantial determining effect on conformity. Beyond that, however, the NHTSA position is that the decision as to who should perform the tests and who should take the responsibility is best not regulated by the government. The effect of Part 568 is to allow the final-stage manufacturer to avoid primary responsibility for conformity to a standard if it completes the vehicle in accordance with the conditions or instructions furnished with the incomplete vehicle by its man-

ufacturer. Whether it does so is a decision it must make in light of all the circumstances.

This notice extends the proposed exclusion for vehicles that use fuel with a boiling point below 32° F. to school buses having a GVWR greater than 10,000 pounds. Fuel systems using gaseous fuels are not subject to the spillage problems against which this standard is directed.

The Vehicle Equipment Safety Commission requested that school buses be required to undergo static rollover tests and that the engine be running during the tests. Upon consideration, the NHTSA finds that a static rollover test for school buses is impractical in light of the expensive test facility that would be required. A requirement that the engine be running during the impact test would make little difference in the resulting fuel spillage. Since the standard requires that the fuel tank be filled with Stoddard solvent during the impact test, the test vehicle would have to be equipped with an auxiliary fuel system for the engine. The expense of modifying the test vehicle to allow the engine to run during the test would not justify the minimal benefits resulting from a requirement that the engine be running. However, the fuel system integrity of school buses will be continually monitored and analyzed by the NHSTA. Therefore, suggestions such as these may be the subject of future rulemaking.

One school bus body manufacturer cited the infrequency of school bus fires resulting from collisions as a reason for ameliorating or eliminating altogether fuel system integrity requirements for school buses. In promulgating these amendments to Standard No. 301, the NHTSA is acting under the statutory mandate to develop regulations concerning school bus fuel systems. This statute reflects the need, evidently strongly felt by the public, to protect the children who ride in the school buses. They and their parents have little direct control over the types of vehicles in which they ride to school, and are therefore not in a position to determine the safety of the vehicles. Considering the high regard expressed by the public for the safety of its children, the NHTSA finds it important that the school bus standards be effective and meaningful.

The California Highway Patrol expressed the concern that these amendments would preempt State regulations to the extent that the State would be precluded from specifying the location of fuel tanks, fillers, vents, and drain openings in school buses. The standard will unavoidably have that effect, by the operation of section 103(d) of the National Traffic and Motor Vehicle Safety Act. However, although a State may not have regulations of general applicability that bear on these aspects of performance, the second sentence of the same section makes it clear that a State or political subdivision may specify higher standards of performance for vehicles purchased for its own use, although of course the Federal standards must be met in any case.

In addition to provisions directly relating to school buses, this notice clarifies the loading condition amendments in the notice of August 6, 1975, by amending S6.1 to provide for testing with 50th percentile dummies. The wording of S6.1 is identical to that of the proposal.

In light of the foregoing, 49 CFR 571.301, Motor Vehicle Safety Standard No. 301, is amended. . . .

Effective date: July 15, 1976, in conformity with the schedule mandated by the 1974 Amendments to the Traffic Safety Act. However, the effective date of the amendment of S6.1 is October 15, 1975. Because the amendment to that paragraph clarifies the revision of certain requirements which became effective September 1, 1975, it is found for good cause shown that an effective date for the amendment of S6.1 less than 180 days after issuance is in the public interest.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); Sec. 202, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392); delegations of authority at 49 CFR 1.51 and 501.8).

Issued on October 8, 1975.

Gene G. Mannella
Acting Administrator

40 F.R. 48352
October 15, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301-75

Fuel System Integrity

(Docket No. 73-20; Notice 9)

This notice clarifies the effective date of the change in Standard No. 301-75 (49 CFR 571.301-75) from a 15-minute to a 30-minute fuel spillage measurement period following cessation of motion in barrier crash tests.

Until August 1975, S5.4 of Standard No. 301-75 specified a 15-minute fuel spillage measurement period for the barrier crash test requirements that would become effective September 1, 1975. To allow more time for leaks to be located and rates of flow to be established, that period was extended to 30 minutes in Notice 6 (40 FR 33036, August 6, 1975; correction of section numbers at 40 FR 37042, August 25, 1975). Notice 6 set the effective date of the change as September 1, 1975.

In response to a petition for reconsideration filed by American Motors Corporation, the NHTSA in Notice 7 (40 FR 47790; October 10, 1975) delayed for 1 year the effective date of that change, thereby establishing the following scheme: a 15-minute period would be used in applying the standard to vehicles manufactured before September 1, 1976, while a 30-minute measurement period would be used for vehicles manufactured after that date.

In Notice 8, which was published on October 15, 1975 (40 FR 48352), the loading conditions of S6.1 were revised, effective immediately, and the standard was extended to apply to school buses with a GVWR in excess of 10,000 pounds, effective July 15, 1976. Because these amendments were made by republishing the entire text

of the standard, it appeared that the effective date of the change from a 15-minute measurement period to a 30-minute measurement period had been advanced from September 1, 1976, to July 15, 1976, for all vehicles. The NHTSA did not intend such an advancement, and this notice amends the standard to reestablish the September 1, 1976, effective date for vehicles other than school buses with a GVWR greater than 10,000 pounds.

The following corrections of Notice 8 are also made: the standard is designated as "Standard No. 301-75" and typographical errors in S6.4 and S7.5.2 are corrected.

In consideration of the foregoing, § 571.301 of 49 CFR Part 571 (Standard No. 301, *Fuel System Integrity*), as published in the issue of October 15, 1975 (40 FR 48352), is redesignated as § 571.301-75 and amended. . . .

Effective dates: As set forth in the standard. Changes indicated in the text of the Code of Federal Regulations should be made immediately.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); Sec. 108, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392 note); delegation of authority at 49 CFR 1.50.)

Issued on February 25, 1976.

James B. Gregory
Administrator

41 F.R. 9350
March 4, 1976

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 301-75

Fuel System Integrity

(Docket No. 73-03; Notice 07); (Docket No. 73-20; Notice 010);
(Docket No. 73-34; Notice 04); (Docket No. 75-02; Notice 03);
(Docket No. 75-03; Notice 05); (Docket No. 75-07; Notice 03);
(Docket No. 75-24; Notice 03)

This notice announces that the effective dates of the redefinition of "school bus" and of six Federal motor vehicle safety standards as they apply to school buses are changed to April 1, 1977, from the previously established effective dates. This notice also makes a minor amendment to Standard No. 220, *School Bus Rollover Protection*, and adds a figure to Standard No. 221, *School Bus Body Joint Strength*.

The Motor Vehicle and Schoolbus Safety Amendments of 1974 (the Act) mandated the issuance of Federal motor vehicle safety standards for several aspects of school bus performance, Pub. L. 93-492, § 202 (15 U.S.C. § 1392(i) (1)(A)). These amendments included a definition of school bus that necessitated a revision of the existing definition used by the NHTSA in establishing safety requirements. The Act also specified that the new requirements "apply to each schoolbus and item of schoolbus equipment which is manufactured . . . on or after the expiration of the 9-month period which begins on the date of promulgation of such safety standards." (15 U.S.C. § 1392(i) (1)(B)).

Pursuant to the Act, amendments were made to the following standards: Standard No. 301-75, *Fuel System Integrity* (49 CFR 571.301-75), effective July 15, 1976, for school buses not already covered by the standard (40 FR 483521, October 15, 1975); Standard No. 105-75, *Hydraulic Brake Systems* (49 CFR 571.105-75), effective October 12, 1976 (41 FR 2391, January 16, 1976); and Standard No. 217, *Bus Window Retention and Release* (49 CFR 571.217), effective for school buses on October 26, 1976 (41 FR 3871, January 27, 1976).

In addition, the following new standards were added to Part 571 of Title 49 of the Code of Federal Regulations, effective October 26, 1976: Standard No. 220, *School Bus Rollover Protection* (41 FR 3874, January 27, 1976); Standard No. 221, *School Bus Body Joint Strength* (41 FR 3872, January 26, 1976); and Standard No. 222, *School Bus Passenger Seating and Crash Protection* (41 FR 4016, January 28, 1976). Also, the existing definition of "school bus" was amended, effective October 27, 1976, in line with the date set by the Act for issuance of the standards.

The Act was recently amended by Public Law 94-346 (July 8, 1976) to change the effective dates of the school bus standards to April 1, 1977 (15 U.S.C. § 1392(i) (1)(B)). This notice is intended to advise interested persons of these changes of effective dates. In the case of Standard No. 301-75, the change of effective date is reflected in a conforming amendment to S5.4 of that standard. A similar amendment is made in S3 of Standard No. 105-75.

The agency concludes that the October 27, 1976, effective date for the redefinition of "school bus" should be postponed to April 1, 1977, to conform to the new effective dates for the upcoming requirements. If this were not done, the new classes of school buses would be required to meet existing standards that apply to school buses (e.g., Standard No. 108 (49 CFR 571.108)) before being required to meet the new standards. This would result in two stages of compliance, and would complicate the redesign efforts that Congress sought to relieve.

This notice also amends Standard No. 220 in response to an interpretation request by Blue Bird Body Company, and Sheller-Globe Corporation's petition for reconsideration of the standard. Both companies request confirmation that the standard's requirement to operate emergency exits during the application of force to the vehicle roof (S4(b)) does not apply to roof exits which are covered by the force application plate. The agency did not intend to require the operation of roof exits while the force application plate is in place on the vehicle. Accordingly, an appropriate amendment has been made to S4(b) of the standard.

With regard to Standard No. 220, Sheller-Globe also requested information that, in testing its school buses that have a gross vehicle weight rating (GVWR) of 10,000 pounds or less, it may test with a force application plate with dimensions other than those specified in the standard. The standard does not prohibit a manufacturer from using a different dimension from that specified, in view of the NHTSA's expressed position on the legal effect of its regulations. To certify compliance, a manufacturer is free to choose any means, in the exercise of due care, to show that a vehicle (or item of motor vehicle equipment) would comply if tested by the NHTSA as specified in the standard. Thus the force application plate used by the NHTSA need not be duplicated by each manufacturer or compliance test facility. Sheller-Globe, for example, is free to use a force application plate of any width as long as it can certify its vehicle would comply if tested by the NHTSA according to the standard.

In a separate area, the agency corrects the inadvertent omission of an illustration from Standard No. 221 as it was issued January 26, 1976 (41 FR 3872). The figure does not differ from that proposed and, in that form, it received no adverse comment.

In accordance with recently enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 FR 16200, April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this action on the public and private sectors, including pos-

sible loss of safety benefits. The changes in effective dates for the school bus standards are not evaluated because they were accomplished by law and not by regulatory action.

The change of effective date for the redefinition of "school bus" will result in savings to manufacturers who will not be required to meet existing school bus standards between October 27, 1976, and April 1, 1977. The agency calculates that the only standard that would not be met would be the requirement in Standard No. 108 for school bus marker lamps. In view of the agency's existing provision for the marking of night school buses in Pupil Transportation Standard No. 17 (23 CFR 1204), it is concluded that the absence of this equipment until April 1, 1977, will not have a significant adverse impact on safety.

The interpretative amendment of Standard No. 220 and the addition of a figure to Standard No. 221 are not expected to affect the manufacture or operation of school buses.

In consideration of the foregoing, Part 571 of Title 49 of the Code of Federal Regulations is amended....

Effective dates:

1. Because the listed amendments do not impose additional requirements of any person, the National Highway Traffic Safety Administration finds that an immediate effective date of August 26, 1976 is in the public interest.

2. The effective date of the redefinition of "school bus" in 49 CFR Part 571.3 that was published in the issue of December 31, 1976 (40 FR 60033) is changed to April 1, 1977.

3. The effective dates of Standard Nos. 105-75, 217, 301-75, 220, 221, and 222(as they apply to school buses) are April 1, 1977, in accordance with Public Law 94-346.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); Pub. L. 94-346, Stat. (15 U.S.C. § 1392(i)(1)(B)); delegation of authority at 49 CFR 1.50.)

Issued on August 17, 1976.

John W. Snow
Administrator

41 F.R. 36026
August 26, 1976

PREAMBLE TO AN AMENDMENT TO FEDERAL MOTOR VEHICLE SAFETY STANDARD NO. 301

Fuel; System Integrity

[Docket No. 88-01; Notice 01]

ACTION: Technical amendment; final rule

SUMMARY: This notice makes a technical amendment to Figure 2 of Standard No. 301 to correct the ground clearance dimension specified in the figure for moving contoured barrier used in testing the fuel system integrity of school buses. Currently, Figure 2 specifies the ground clearance to the lower edge of the contoured impact surface as 12.25 inches (311 mm.). The text of the standard refers to the same dimension as 5.25 ± 0.5 inches. This amendment corrects Figure 2 to reflect the agency's intent that the ground clearance to the lower edge of the contoured impact surface is 5.25 inches (133 mm.).

EFFECTIVE DATE: April 13, 1988.

SUPPLEMENTARY INFORMATION: The Blue Bird Body Company (Blue Bird), a school bus manufacturer, has brought to the agency's attention that corrective action should be taken to remedy a discrepancy in the moving contoured barrier specifications in Standard No. 301. Blue Bird informed the agency that there appeared to be a conflict in the standard about the correct ground clearance of the contoured impact surface used in the school bus impact test of the standard. Paragraph S7.5.1 of the standard refers to the dimension between the ground to the lower edge of the impact surface as 5.25 ± 0.5 inches, while Figure 2 of the standard shows the ground clearance to be 12.25.

This amendment corrects Figure 2 to reflect the agency's intent that the ground clearance to the lower edge of the contoured impact surface is 5.25 inches (133 mm.). NHTSA adopted the use of the contoured barrier in a final rule issued on October 15, 1975 (40 FR 48352). In the April 16, 1975, proposal to the rule (40 FR 17036), NHTSA stated that:

The contoured barrier would incorporate the moving barrier specifications of SAE Recommended Practice J972a (March 1973). However, the impact surface of the barrier would be at a height 30 inches above the ground level, rather than 37 inches as specified in the

SAE provision. Studies have shown that a 30-inch test height is more representative of actual collisions. This would be a typical engine height of vehicles that might impact a school bus.

Thus, in S7.5.1 of the standard, the agency adopted the ground clearance as 5.25 inches \pm 0.5 inches to ensure that the top of the barrier would be 30 inches from the ground. In Figure 2, the agency apparently inadvertently incorporated the barrier dimensions directly from the SAE Recommended Practice J972a, without making the necessary 7 inch adjustment in the ground clearance dimension.

The agency has therefore concluded that a technical correction to Figure 2 is required to reflect NHTSA's true intent. The agency is amending the table marked "Dimensions" in the figure by changing the "12.25" inch and "311" mm. dimensions for letter "d" (referring to the distance between the ground to the lower edge of the impact surface) to "5.25" inches, and "133" mm., respectively.

Because the amendment is corrective in nature and imposes no additional burden upon any person, it is hereby found that notice and comment thereon are not necessary, and that for good cause shown an effective date earlier than 180 days after issuance of the rule is in the public interest. The amendment is effective upon 30 days after publication in the *Federal Register*.

NHTSA has considered this amendment and has determined that it is not major within the meaning of Executive Order 12291 "Federal Regulation" or significant under Department of Transportation regulatory policies and procedures, and that neither a regulatory impact analysis nor a regulatory evaluation is required. The amendment imposes no additional requirements nor alters the cost impacts of requirements already adopted.

NHTSA has analyzed this rule for purposes of the National Environmental Policy Act. The rule will have no effect on the human environment since it clarifies an existing requirement.

The agency has also considered the impact of this amendment under the Regulatory Flexibility

Act. I certify that the amendment will not have a significant economic impact on a substantial number of small entities. Accordingly, no regulatory flexibility analysis has been prepared. Manufacturers of motor vehicles, those businesses affected by the amendment, generally are not small businesses within the meaning of the Regulatory Flexibility Act. Any manufacturer who is a small business within the meaning of the Act will not be significantly affected since this corrective amendment only clarifies a previously adopted requirement and imposes no additional requirements. Finally, small organizations and governmental jurisdictions will not be affected by this amendment since prices will not be impacted.

In consideration of the foregoing, Figure 2 of Part 571 is amended.

Issued on March 8, 1988

Barry Felrice
Associate Administrator
for Rulemaking

53 F.R. 8202
March 14, 1988

**PREAMBLE TO AN AMENDMENT TO
FEDERAL MOTOR VEHICLE SAFETY STANDARD 301
FUEL SYSTEM INTEGRITY; CORRECTION
(Docket No. 73-20; Notice 12)**

ACTION: Technical correction.

SUMMARY: This notice corrects a typographical error in 49 CFR § 571.301, *Fuel System Integrity*, concerning the application of the standard to large school buses. This standard limits the amount of fuel spillage that can occur from vehicle fuel systems during and after specified front, rear, and lateral barrier impact tests.

EFFECTIVE DATE: December 12, 1988.

SUPPLEMENTARY INFORMATION: The agency has become aware of a typographical error in paragraph S3, *Application*, of Federal Motor Vehicle Safety Standard No. 301, *Fuel System Integrity* (Title 49 of the Code of Federal Regulations (CFR), § 571.301). Standard No. 301 limits the amount of fuel spillage that can occur from fuel systems of vehicles subject to the standard during and after specified front, rear, and lateral barrier impact tests.

Paragraph S3 should state: "This standard applies to passenger cars, and to multipurpose passenger vehicles, trucks, and buses that have a GVWR of 10,000 pounds or less and use fuel with a boiling point *above* 32° F." (Emphasis added.) However, as published in the CFR, the latter portion of S3 states: ". . . and to schoolbuses that have a GVWR greater than 10,000 pounds and fuel with a boiling point *about* 32° F."

The change in wording occurred between the issuance and publication of the final rule establishing Standard No. 301. On October 8, 1975, NHTSA issued for publication in the *Federal Register* the final rule which established the application of Standard No. 301 to school buses over 10,000 pounds GVWR, and amended paragraph S3 to reflect that application. As issued, the wording in question in paragraph S3 read "above 32° F." This was in accord with the preamble to the final rule, which stated that: "This notice extends the proposed exclusion for vehicles that use fuel with a boiling point below 32° F. to school buses having a GVWR greater than 10,000 pounds." 40 FR 48352; October 15, 1975. However, as published, the final rule used the word "about" instead of "above" with respect to those more heavily rated school buses. This notice corrects that error.

Issued on December 7, 1988.

Diane K. Steed
Administrator

**53 F.R. 49989
December 13, 1988**

MOTOR VEHICLE SAFETY STANDARD NO. 301

Fuel System Integrity

S1. Scope. This standard specifies requirements for the integrity of motor vehicle fuel systems.

S2. Purpose. The purpose of this standard is to reduce deaths and injuries occurring from fires that result from fuel spillage during and after motor vehicle crashes.

S3. Application. This standard applies to passenger cars, and to multipurpose passenger vehicles, trucks, and buses that have a GVWR of 10,000 pounds or less and use fuel with a boiling point above 32° F., and to school buses that have a GVWR greater than 10,000 pounds and use fuel with a boiling point above 32° F.

S4. Definition. "Fuel spillage" means the fall, flow, or run of fuel from the vehicle but does not include wetness resulting from capillary action.

S5. General requirements.

S5.1 Passenger cars. Each passenger car manufactured from September 1, 1975, to August 31, 1976, shall meet the requirements of S6.1 in a perpendicular impact only, and S6.4. Each passenger car manufactured on or after September 1, 1976, shall meet all the requirements of S6, except S6.5.

S5.2 Vehicles with GVWR of 6,000 pounds or less. Each multipurpose passenger vehicle, truck, and bus with a GVWR of 6,000 pounds or less manufactured from September 1, 1976, to August 31, 1977, shall meet all the requirements of S6.1 in a perpendicular impact only, S6.2, and S6.4. Each of these types of vehicles manufactured on or after September 1, 1977, shall meet the requirements of S6, except S6.5.

S5.3 Vehicles with GVWR of more than 6,000 pounds but not more than 10,000 pounds. Each multipurpose passenger vehicle, truck, and bus

with a GVWR of more than 6,000 pounds but not more than 10,000 pounds manufactured from September 1, 1976, to August 31, 1977, shall meet the requirements of S6.1 in a perpendicular impact only. Each vehicle manufactured on or after September 1, 1977, shall meet all the requirements of S6, except S6.5.

S5.4 School buses with a GVWR greater than 10,000 pounds. Each school bus with a GVWR greater than 10,000 pounds manufactured on or after April 1, 1977, shall meet the requirements of S6.5.

S5.5 Fuel spillage: Barrier crash. Fuel spillage in any fixed or moving barrier crash test shall not exceed 1 ounce by weight from impact until motion of the vehicle has ceased, and shall not exceed a total of 5 ounces by weight in the 5-minute period following cessation of motion. For the subsequent 25-minute period (for vehicles manufactured before September 1, 1976, other than school buses with a GVWR greater than 10,000 pounds: the subsequent 10-minute period), fuel spillage during any 1-minute interval shall not exceed 1 ounce by weight.

S5.6 Fuel spillage: Rollover. Fuel spillage in any rollover test, from the onset of rotational motion, shall not exceed a total of 5 ounces by weight for the first 5 minutes of testing at each successive 90° increment. For the remaining testing period, at each increment of 90° fuel spillage during any 1-minute interval shall not exceed 1 ounce by weight.

S6. Test requirements. Each vehicle with a GVWR of 10,000 pounds or less shall be capable of meeting the requirements of any applicable

barrier crash test followed by a static rollover, without alteration of the vehicle during the test sequence. A particular vehicle need not meet further requirements after having been subjected to a single barrier crash test and a static rollover test.

S6.1 Frontal barrier crash. When the vehicle traveling longitudinally forward at any speed up to and including 30 mph impacts a fixed collision barrier that is perpendicular to the line of travel of the vehicle, or at any angle up to 30° in either direction from the perpendicular to the line of travel of the vehicle, with 50th-percentile test dummies as specified in Part 572 of this chapter at each front outboard designated seating position and at any other position whose protection system is required to be tested by a dummy under the provisions of Standard No. 208, under the applicable conditions of S7, fuel spillage shall not exceed the limits of S5.5. (Effective: October 15, 1975)

S6.2 Rear moving barrier crash. When the vehicle is impacted from the rear by a barrier moving at 30 mph, with test dummies as specified in Part 572 of this chapter at each front outboard designated seating position, under the applicable conditions of S7, fuel spillage shall not exceed the limits of S5.5.

S6.3 Lateral moving barrier crash. When the vehicle is impacted laterally on either side by a barrier moving at 20 mph with 50th-percentile test dummies as specified in Part 572 of this chapter at positions required for testing to Standard No. 208, under the applicable conditions of S7, fuel spillage shall not exceed the limits of S5.5.

S6.4 Static rollover. When the vehicle is rotated on its longitudinal axis to each successive increment of 90°, following an impact crash of S6.1, S6.2, or S6.3, fuel spillage shall not exceed the limits of S5.6.

S6.5 Moving contoured barrier crash. When the moving contoured barrier assembly traveling longitudinally forward at any speed up to and including 30 mph impacts the test vehicle (school bus with a GVWR exceeding 10,000 pounds) at any

point and angle, under the applicable conditions of S7.1 and S7.5, fuel spillage shall not exceed the limits of S5.5.

S7. Test conditions. The requirements of S5 and S6 shall be met under the following conditions. Where a range of conditions is specified, the vehicle must be capable of meeting the requirements at all points within the range.

S7.1 General test conditions. The following conditions apply to all tests:

S7.1.1 The fuel tank is filled to any level from 90 to 95 percent of capacity with Stoddard solvent, having the physical and chemical properties of type 1 solvent, Table I ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry Cleaning Solvents."

S7.1.2 The fuel system other than the fuel tank is filled with Stoddard solvent to its normal operating level.

S7.1.3 In meeting the requirements of S6.1 through S6.3, if the vehicle has an electrically driven fuel pump that normally runs when the vehicle's electrical system is activated, it is operating at the time of the barrier crash.

S7.1.4 The parking brake is disengaged and the transmission is in neutral, except that in meeting the requirements of S6.5 the parking brake is set.

S7.1.5 Tires are inflated to manufacturer's specifications.

S7.1.6 The vehicle, including test devices and instrumentation, is loaded as follows:

(a) Except as specified in S7.1.1, a passenger car is loaded to its unloaded vehicle weight plus its rated cargo and luggage capacity weight, secured in the luggage area, plus the necessary test dummies as specified in S6, restrained only by means that are installed in the vehicle for protection at its seating position.

(b) Except as specified in S7.1.1, a multipurpose passenger vehicle, truck, or bus with a GVWR of 10,000 pounds or less is loaded to its unloaded vehicle weight, plus the necessary test dummies, as specified in S6, plus 300 pounds of its rated cargo and luggage capacity weight, whichever is less, secured to the vehicle and dis-

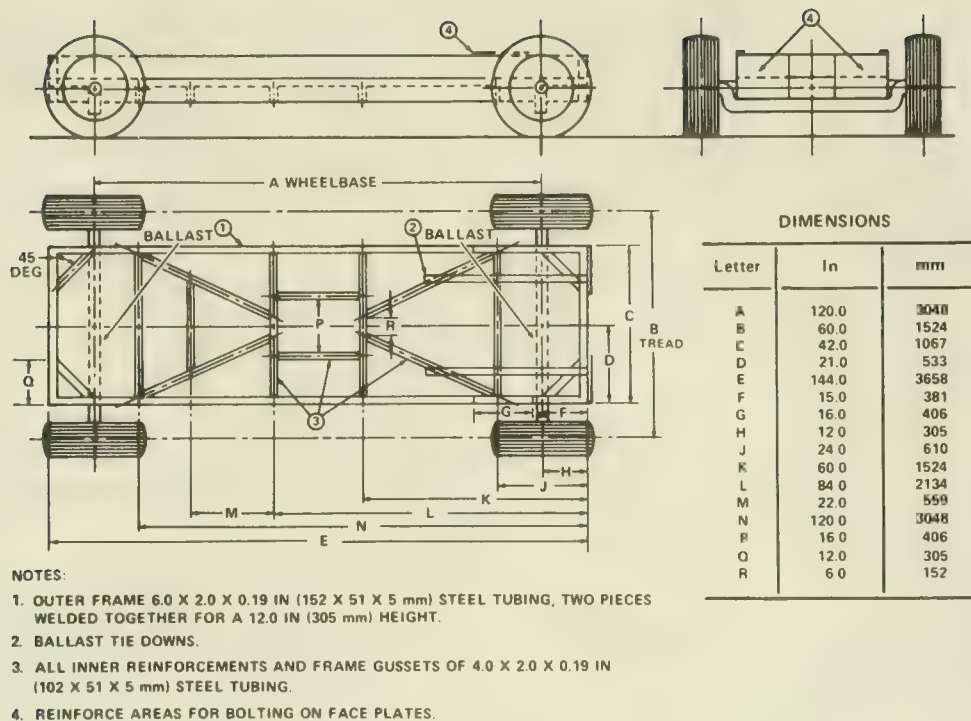


FIG. 1—COMMON CARRIAGE FOR MOVING BARRIERS

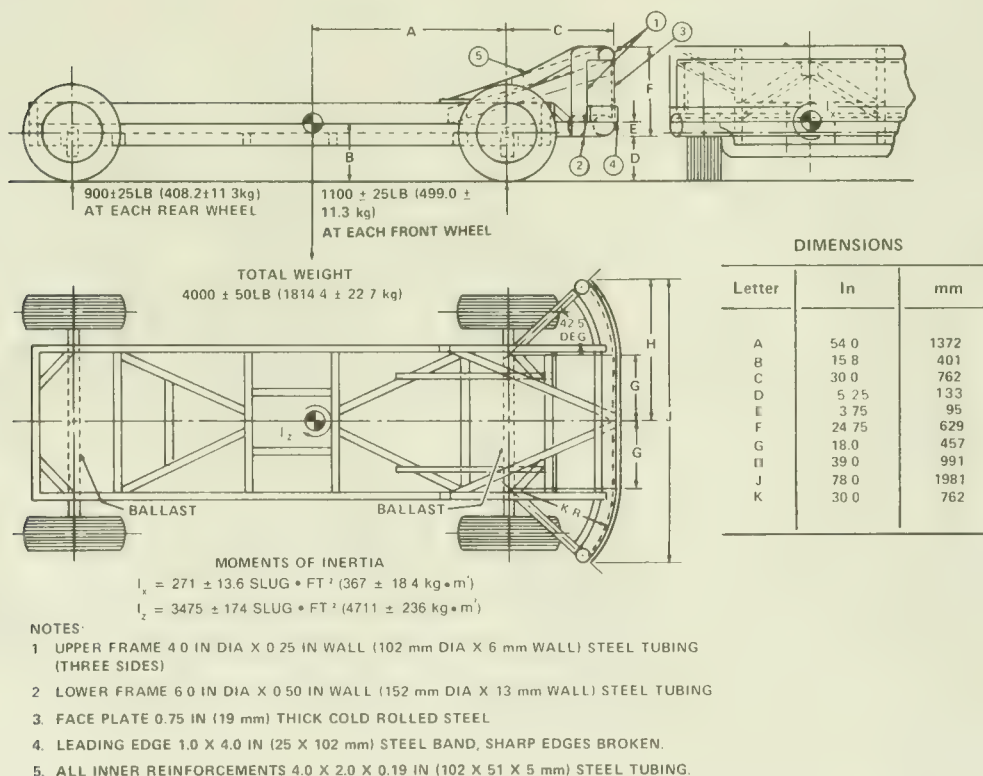


FIG. 2—COMMON CARRIAGE WITH CONTOURED IMPACT SURFACE ATTACHED

tributed so that the weight on each axle as measured at the tire-ground interface is in proportion to its GAWR. If the weight on any axle, when the vehicle is loaded to unloaded vehicle weight plus dummy weight, exceeds the axle's proportional share of the test weight, the remaining weight shall be placed so that the weight on that axle remains the same. Each dummy shall be restrained only by means that are installed in the vehicle for protection at its seating position.

(c) Except as specified in S7.1.1, a school bus with a GVWR greater than 10,000 pounds is loaded to its unloaded vehicle weight plus 120 pounds of unsecured weight at each designated seating position.

S7.2 Lateral moving barrier crash test conditions. The lateral moving barrier crash test conditions are those specified in S8.2 of Standard No. 208, 49 CFR 571.208.

S7.3 Rear moving barrier test conditions. The rear moving barrier test conditions are those specified in S8.2 of Standard No. 208, 49 CFR 571.208, except for the positioning of the barrier and the vehicle. The barrier and test vehicle are positioned so that at impact—

(a) The vehicle is at rest in its normal attitude;

(b) The barrier is traveling at 30 mph with its face perpendicular to the longitudinal centerline of the vehicle; and

(c) A vertical plane through the geometric center of the barrier impact surface and perpendicular to that surface coincides with the longitudinal centerline of the vehicle.

S7.4 Static rollover test conditions. The vehicle is rotated about its longitudinal axis, with the axis kept horizontal, to each successive increment of 90°, 180°, and 270° at a uniform rate, with 90° of rotation taking place in any time interval from 1 to 3 minutes. After reaching each 90° increment the vehicle is held in that position for 5 minutes.

S7.5 Moving contoured barrier test conditions. The following conditions apply to the moving contoured barrier crash test:

S7.5.1 The moving barrier, which is mounted on a carriage as specified in Figure 1, is of rigid construction, symmetrical about a vertical longitudinal plane. The contoured impact surface, which is 24.75 inches high and 78 inches wide, conforms to the dimensions shown in Figure 2, and is attached to the carriage as shown in that figure. The ground clearance to the lower edge of the impact surface is 5.25 ± 0.5 inches. The wheelbase is 120 ± 2 inches.

S7.5.2 The moving contoured barrier, including the impact surface, supporting structure, and carriage, weighs $4,000 \pm 50$ pounds with the weight distributed so that 900 ± 25 pounds is at each rear wheel and 1100 ± 25 pounds is at each front wheel. The center of gravity is located 54.0 ± 1.5 inches rearward of the front wheel axis, in the vertical longitudinal plane of symmetry, 15.8 inches above the ground. The moment of inertia about the center of gravity is:

$$I_x = 271 \pm 13.6 \text{ slug ft}^2$$

$$I_z = 3475 \pm 174 \text{ slug ft}^2$$

S7.5.3 The moving contoured barrier has a solid nonsteerable front axle and fixed rear axle attached directly to the frame rails with no spring or other type of suspension system on any wheel. (The moving barrier assembly is equipped with a braking device capable of stopping its motion.)

S7.5.4 The moving barrier assembly is equipped with G78-15 pneumatic tires with a tread width of 6.0 ± 1 inch, inflated to 24 psi.

S7.5.5 The concrete surface upon which the vehicle is tested is level, rigid, and of uniform construction, with a skid number of 75 when measured in accordance with American Society of Testing and Materials Method E-274-65T at 40 mph, omitting water delivery as specified in paragraph 7.1 of that method.

S7.5.6 The barrier assembly is released from the guidance mechanism immediately prior to impact with the vehicle.

38 F.R. 22397
August 20, 1973
40 F.R. 48352
October 15, 1975

MOTOR VEHICLE SAFETY STANDARD NO. 302**Flammability of Interior Materials—Passenger Cars, Multipurpose Passenger Vehicles,
Trucks, and Buses
(Docket No. 3-3; Notice 4)**

This notice amends § 575.21 of Title 49 of the Code of Federal Regulations by adding a new motor vehicle safety standard, No. 302, Flammability of Interior Materials. Notices of proposed rulemaking on the subject were published on December 31, 1969 (34 F.R. 20434) and June 26, 1970 (35 F.R. 10460).

As stated in the notice of December 31, 1969, the occurrence of thousands of fires per year that begin in vehicle interiors provide ample justification for a safety standard on flammability of interior materials. Although the qualities of interior materials cannot by themselves make occupants safe from the hazards of fuel-fed fires, it is important, when fires occur in the interior of the vehicle from such sources as matches, cigarettes, or short circuits in interior wiring, that there be sufficient time for the driver to stop the vehicle, and if necessary for occupants to leave it, before injury occurs.

The question on which the public responses to the above notices differed most widely was the burn rate limit to be required. The rate proposed was 4 inches per minute, measured by a horizontal test. Some manufacturers suggested maximum burn rates as high as 15 inches per minute. The Center for Auto Safety, the Textile Fibers and By-Products Association, and the National Cotton Batting Institute, on the other hand, suggested essentially a zero burn rate, or self-extinguishment, requirement, with a vertical rather than a horizontal test. A careful study was made of the available information on this subject, including the burn rates of materials currently in use or available for use, recommendations or regulations of other agencies, and the economic and technical consequences of various possible rate levels and types of tests. A con-

siderable amount of Bureau-sponsored research has been conducted and is continuing on the subject. On consideration of this data, the Bureau has decided to retain the 4-inch-per-minute burn limit, with the horizontal test, in this standard. It has been determined that suitable materials are not available in sufficient quantities, at reasonable costs, to meet a significantly more stringent burn rate by the effective date that is hereby established. The 4-inch rate will require a major upgrading of materials used in many areas, and a corresponding improvement in this aspect of motor vehicle safety. It is important that this standard not hinder manufacturers' efforts to comply with the crash protection requirements that are currently being imposed, and that in the Bureau's judgment are of the greatest importance. Further study will be made, however, of the feasibility of, and justification for, imposing more stringent requirements with a later effective date.

As pointed out in several comments, the problem of toxic combustion by-products is closely related to that of burn rate. Release of toxic gases is one of the injury-producing aspects of motor vehicle fires, and many of the common ways of treating materials to reduce their burn rates involve chemicals that produce highly poisonous gases such as hydrogen chloride and hydrogen cyanide. The problem of setting standards with regard to combustion by-products is difficult and complex, and the subject of continuing research under Bureau auspices. Until enough is known in this area to form the basis for a standard, and to establish the proper interaction between burn rate and toxicity, this uncertainty constitutes an additional reason for not requiring self-extinguishing materials.

The proposal specified a particular commercial gas for the test burn and several comments suggested problems in obtaining the gas for manufacture testing. As is the case with all the motor vehicle safety standards, the test procedures describe the tests that the regulated vehicles or equipment must be capable of passing, when tested by the Bureau, and not the method by which a manufacturer must ascertain that capability. Any gas with at least as high a flame temperature as the gas described in the standard would therefore be suitable for manufacturer testing. To make this point clearer, and to use a more readily available reference point, the standards been reworded to specify a gas that "has a flame temperature equivalent to that of natural gas."

The dimensions of the enclosure within which the test is conducted have been changed from those proposed, in order to provide more draft-free conditions, and consequently more repeatable results. Smaller cabinets, furthermore, evidently are more generally available than larger ones. Again it should be noted that there is no necessity that manufacturers duplicate the dimensions of the test cabinet, as long as they can establish a reasonable basis for concluding that their materials will meet the requirements when tested in such a cabinet.

Several comments questioned the need for specifying the temperature and relative humidity under which the material is conditioned and the test is conducted. The foregoing discussions of the relation of the standard to manufacturer testing apply here also. The specification of temperature and relative humidity for conditioning and testing is made to preclude any arguments, in the face of a compliance test failure, that variations in test results are due to permitted variations in test conditions. The relative humidity specification has been changed from 65 percent, as proposed, to 50 percent. This humidity level represents more closely the conditions encountered in use during fairly dry weather. While it is a slightly more stringent condition, it is one in wide use for materials testing, according to the comments, and is not, in the judgment of the Bureau, a large enough change in the substance of the proposal to warrant further notice and opportunity for comment.

Several comments suggested that the standard should specify the number of specimens to be tested, with averaging of results, as is commonly found in specification-type standards. The legal nature of the motor vehicle safety standards is such, however, that sampling and averaging provisions would be inappropriate. As defined by the National Traffic and Motor Vehicle Safety Act, the standards are minimum performance levels that must be met by every motor vehicle or item of motor vehicle equipment to which they apply. Enforcement is based on independent Bureau testing, not review of manufacturer testing, and manufacturers are required to take legal responsibility for every item they produce. The result, and the intent of the Bureau in setting the standards, is that manufacturers must establish a sufficient margin of performance between their test results and the standard's requirements to allow for whatever variances may occur between items tested and items produced.

The description of portions to be tested has been changed slightly, such that the surface and the underlying materials are tested either separately or as a composite, depending on whether they are attached to each other as used in the vehicle. In the proposal, surface and underlying materials were to be tested separately regardless of how used, an element of complexity found unnecessary for safety purposes.

In response to comments with respect to materials that burn at a decreasing rate, to which the application of the test is not clear, an additional criterion has been added. If material stops burning before it has burned for 60 seconds, and does not burn more than 2 inches, it is considered to meet the requirement.

In consideration of the foregoing, § 571.21 of Title 49, Code of Federal Regulations, is amended by the addition of Standard No. 302, Flammability of Interior Materials.

Effective date: September 1, 1972. Because of the extensive design changes that will be necessitated by this new standard, and the lead-time consequently required by manufacturers to prepare for production, it is found, for good

cause shown, that an effective date later than one year from the issuance of this notice is in the public interest.

Issued on December 29, 1970.

Douglas W. Toms
Director

36 F.R. 289

January 8, 1971

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 302

Flammability of Interior Materials

(Docket No. 3-3; Notice 7b)

This notice modifies the test procedures and specimen preparation requirements of Motor Vehicle Safety Standard No. 302, *Flammability of interior materials* (49 CFR 571.302). A notice of proposed rulemaking was issued on May 17, 1973 (38 FR 12934).

Several comments on the notice of proposed rulemaking suggested exempting small components on the basis of size because of the confusion caused by paragraph S4.1. This agency has not found, however, that the exemption of a component on the basis of size is consistent with safety. Rather, NHTSA finds that if a component is too small to produce an acceptable test sample, a test sample consisting of the material from which the component is fabricated should be substituted. Consequently, a new section S4.1.1 has been added to require surrogate testing of such components as switches, knobs, gaskets, and grommets which are considered too small to be effectively tested under the current procedures.

A previous notice of proposed rulemaking (36 FR 9565) suggested a scheme for testing single and composite materials that would allow the testing of certain configurations of vehicle interior materials not taken into account under the present scheme. Examples of such configurations are multi-layered composites and single layers of underlying materials that are neither padding nor cushioning materials. Comments to that notice argued that some aspects of the proposed scheme would require some duplicative testing without providing a measurable safety benefit.

In response to these arguments, it was proposed (38 F.R. 12934) that S4.2 be amended to take into account some omissions in the present

scheme and to reduce the complexity of testing single and composite materials. After reviewing the comments, the proposed scheme is adopted. Thus, the standard is amended to require single materials or composites (materials that adhere at every point of contact), any part of which is within $\frac{1}{2}$ inch of the surface of the component, to meet the burn-rate requirements. Materials that are not part of adhering composites are subject to the requirements when tested separately. Those materials that do adhere to adjacent materials at every point of contact are subject to the requirements as composites when tested with the adjacent materials. The concept of "adherence" would replace language presently contained in the standard describing materials as "bonded, sewed, or mechanically attached." An illustrative example is included in the text of the section.

Several comments in response to the notice of proposed rulemaking requested changes in the test cabinet, as did comments in response to previous notices concerning this standard. The NHTSA has evaluated various recommendations and suggestions concerning the cabinet. No changes are proposed in this notice, however, as sufficient justification has not been found for a design change at this time.

Paragraph S5.2.1 of the standard presently provides that materials exceeding $\frac{1}{2}$ inch in thickness are to be cut down to $\frac{1}{2}$ inch in thickness before testing. As described in the notice of proposed rulemaking, cutting certain materials to the prescribed thickness produces a tufted surface upon which a flame front may be propagated at a faster rate than it would be upon the surface of the material before cutting, thereby creating an artificial test condition. In order

to avoid this, the requirements for the transmission rate of a flame front are amended in S4.3(a) to exclude surfaces created by cutting.

The notice of proposed rulemaking points out that a related problem has arisen concerning which surfaces of a test specimen should face the flame in the test cabinet. To answer this question and avoid unnecessary test duplication, the test procedures are amended to provide that the surface of the specimen closest to the occupant compartment air space face downward on the test frame. The test specimen is produced by cutting the material in the direction that provides the most adverse test results.

In light of the above, Motor Vehicle Safety Standard No. 302, 49 CFR § 571.302, is amended. . . .

Effective date: Oct. 1, 1975.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.51.)

Issued on March 17, 1975.

James B. Gregory
Administrator

40 F.R. 14318
March 31, 1975

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 302

Flammability of Interior Materials

(Docket No. 3-3; Notice 9)

On March 31, 1975, the National Highway Traffic Safety Administration (NHTSA) issued a notice modifying the test procedures and specimen preparation requirements of Motor Vehicle Safety Standard No. 302, 49 CFR 571.302, *Flammability of interior materials* (40 FR 14318). Petitions for reconsideration of the rule were received from American Motors Corporation, General Motors Corporation, White Motor Corporation, Chrysler Corporation, Volkswagen of America, Inc., Toyota Motor Sales, U.S.A., Inc., Ford Motor Company, and the Motor Vehicle Manufacturers Association of the United States, Inc.

The NHTSA notice established a process of surrogate testing for components which were too small to test without difficulty using the procedures previously prescribed by Standard No. 302. The objections raised to this new process by the petitioners were that (a) the surrogate testing procedure is an entirely new departure, and the public should have been afforded an opportunity for comment, (b) the results of surrogate testing will in certain cases differ from the results of testing the actual component, (c) the creation of a surrogate testing sample of certain materials, such as elastic cord, is impossible, and (d) the dimensions of the surrogate sample are inappropriate.

It should be fully understood that small components which would otherwise be included within the purview of Standard No. 302 are not excluded by virtue of their size. Further, the NHTSA intends to utilize a surrogate testing procedure, among other testing procedures, in the case of small components as the first step in determining whether a safety defect exists pursuant to section 152 of the National Traffic and

Motor Vehicle Safety Act. Since the testing of small components is a more difficult process, the NHTSA concluded in amending Standard No. 302 to include the surrogate testing process that the new requirement was less stringent than that currently required by the standard. Further, by amending the standard the industry could also be fully apprised of one of the methods the NHTSA intended to use to determine whether a section 152 defect existed.

Nonetheless, it appears from the petitions for reconsideration which were received that a number of manufacturers feel that they should be allowed an opportunity for comment. The NHTSA concludes their request is reasonable and the rule, as it relates to surrogate testing, is hereby revoked and is reissued as a notice of proposed rulemaking in this issue of the **FEDERAL REGISTER**.

A number of the petitioners questioned the need for including any small components within the ambit of Standard No. 302, citing the notice of proposed rulemaking (38 FR 12934, May 17, 1973) which stated that certain small components designed to absorb energy are not fire hazards. Therefore, the petitioners believe the NHTSA has reversed its previous position.

This understanding is correct. As the NHTSA said in the preamble to the proposed amendment to Standard No. 302, issued concurrently with the amendment to the Standard (March 31, 1975, 40 FR 14340):

On May 11, 1973, the NHTSA issued a notice (38 FR 12934) which proposed, inter alia, amending paragraph S4.1 of Standard No. 302 to enumerate the interior components of vehicle occupant compartment which fell within the ambit of the standard.

* * * * *

Comments to the notice, however, have made clear that the enumeration of components, even with the proposed amendment, will continue to confuse manufacturers required to meet the standard.

* * * * *

While some materials exposed to the occupant compartment air space are not fire hazards, the burden of ascertaining that fact should properly lie with the manufacturer.

Several petitions also questioned what safety benefits would come from applying the standard to small components. As petitioner American Motors pointed out, the purpose of Standard No. 302 is to provide sufficient time for the occupants of a vehicle to exit in case of an interior fire. Thus, even small components which are highly flammable would hasten the spreading of fires in motor vehicles, resulting in a serious hazard.

Testing procedures. Petitioners pointed out that while the preamble provides that the surface of the specimen closest to the occupant compartment air space face downward on test frame, this is not made entirely clear in the body of the standard itself. The standard is amended to clarify this matter. Likewise, a definition of the term "occupant compartment air space" is added, although this term was used in the notice of proposed rulemaking without raising a problem for those commenting.

Extension of effective date of amendment. Several petitioners asked for an extension of the effective date. As the surrogate testing procedures have been revoked and reissued as a proposed rule, the NHTSA concludes that an extension of the effective date is not necessary.

Redesignation of Docket 3-3; Notice 7. Through a clerical error, two notices were issued with the heading, "Docket 3-3; Notice 7" (July 11, 1973, 38 FR 18564; March 31, 1975, 40 FR 14318). The notice appearing at 38 FR 18564 is hereby redesignated "Notice 7a" and that appearing at 49 FR 14318 is redesignated "Notice 7b."

In consideration of the foregoing, Motor Vehicle Safety Standard No. 302, 49 CFR 571.302, is amended. . . .

Effective date: September 16, 1975.

Because this amendment relieves a restriction, it is found for good cause shown that an immediate effective date is in the public interest.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.51.)

Issued on September 10, 1975.

James B. Gregory
Administrator

September 16, 1975
40 F.R. 42746

PREAMBLE TO AMENDMENT TO MOTOR VEHICLE SAFETY STANDARD NO. 302

Flammability of Interior Materials

(Docket No. 3-3; Notice 11)

This notice establishes a new section, S3A. *Definitions*, in Motor Vehicle Safety Standard No. 302, 49 CFR 571.302.

On September 16, 1975, the NHTSA published in the Federal Register its response to a petition for reconsideration of Motor Vehicle Safety Standard No. 302, *Flammability of interior materials* (40 FR 42746). The rule established a definition of the term "occupant compartment air space" that was supposed to be added to "S3A. *Definitions*." The wording of the amendment was faulty, however, since the Definitions section had not yet been established in Standard No. 302. This notice corrects the error by adding that section to the standard.

Petitions have been received from General Motors Corporation, Motor Vehicle Manufacturers Association, American Motors Corporation, and Ford Motor Company requesting that the definition of "occupant compartment air space" in Notice 9 be revoked. These petitions will be addressed in a separate notice. The purpose of

this notice is only to promulgate the section heading which was omitted in error from Notice 9.

In light of the above, in place of the amendment numbered 1. in Docket 3-3, Notice 9 (40 FR 42746, September 16, 1975), Motor Vehicle Safety Standard No. 302 is amended by adding a new S3A. *Definitions*. . . .

Effective date: December 4, 1975. Because this amendment is of an interpretative nature and makes no substantive change in the rule, it is found for good cause shown that an immediate effective date is in the public interest.

(Sec. 103, 119 Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at CFR 1.51)

Issued on November 28, 1975.

James B. Gregory
Administrator

40 F.R. 56667
December 4, 1975

MOTOR VEHICLE SAFETY STANDARD NO. 302

Flammability of Interior Materials—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses

(Docket N. 3-3; Notice 4)

S1. Scope. This standard specifies burn resistance requirements for materials used in the occupant compartments of motor vehicles.

S2. Purpose. The purpose of this standard is to reduce the deaths and injuries to motor vehicle occupants caused by vehicle fires, especially those originating in the interior of the vehicle from sources such as matches or cigarettes.

S3. Application. This standard applies to passenger cars, multipurpose passenger vehicles, trucks, and buses.

S3A. Definitions.

“Occupant compartment air space” means the space within the occupant compartment that normally contains refreshable air. (40 F.R. 42746—September 16, 1975. Effective 9/16/75. 40 F.R. 56667—December 4, 1975. Effective: 12/4/75)

S4. Requirements.

S4.1 The portions described in S4.2 of the following components of vehicle occupant compartments shall meet the requirements of S4.3: Seat cushions, seat backs, seat belts, headlining, convertible tops, arm rests, all trim panels including door, front, rear, and side panels, compartment shelves, head restraints, floor coverings, sun visors, curtains, shades, wheel housing covers, engine compartment covers, mattress covers, and any other interior materials, including padding and crash-deployed elements, that are designed to absorb energy on contact by occupants in the event of a crash.

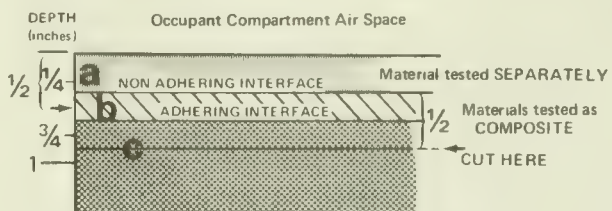
S4.1.1 Deleted and Reserved.

S4.2 Any portion of a single or composite material which is within $\frac{1}{2}$ inch of the occupant compartment air space shall meet the requirements of S4.3.

S4.2.1 Any material that does not adhere to other material(s) at every point of contact shall meet the requirements of S4.3 when tested separately.

S4.2.2 Any material that adheres to other material(s) at every point of contact shall meet the requirements of S4.3 when tested as a composite with the other material(s). Material A has a non-adhering interface with material B and is tested separately. Part of material B is within $\frac{1}{2}$ inch of the occupant compartment air space, and materials B and C adhere at every point of contact; therefore B and C are tested as a composite. The cut is in material C as shown, to make a specimen $\frac{1}{2}$ inch thick.

Illustrative Example



S4.3(a) When tested in accordance with S5, material described in S4.1 and S4.2 shall not burn, nor transmit a flame front across its surface, at a rate of more than 4 inches per minute.

However, the requirement concerning transmission of a flame front shall not apply to a surface created by the cutting of a test specimen for purposes of testing pursuant to S5.

(b) If a material stops burning before it has burned for 60 seconds from the start of timing, and has not burned more than 2 inches from the point where timing was started, it shall be considered to meet the burn-rate requirement of S4.3(a).

S5. Test procedure.

S5.1 Conditions.

S5.1.1 The test is conducted in a metal cabinet for protecting the test specimens from drafts. The interior of the cabinet is 15 inches long, 8 inches deep, and 14 inches high. It has a glass observation window in the front, a closable opening to permit insertion of the specimen holder, and a hole to accommodate tubing for a gas burner. For ventilation, it has a ½-inch clearance space around the top of the cabinet, ten ¾-inch-diameter holes in the base of the cabinet, and legs to elevate the bottom of the cabinet by three-eighths of an inch, all located as shown in Figure 1.

S5.1.2 Prior to testing, each specimen is conditioned for 24 hours at a temperature of 70° F. and a relative humidity of 50 percent, and the test is conducted under those ambient conditions.

S5.1.3 The test specimen is inserted between two matching U-shaped frames of metal stock 1 inch wide and three-eighths of an inch high. The interior dimensions of the U-shaped frames are 2 inches wide by 13 inches long. A specimen that softens and bends at the flaming end so as to cause erratic burning is kept horizontal by supports consisting of thin, heat resistant wires, spanning the width of the U-shaped frame under the specimen at 1-inch intervals. A device that may be used for supporting this type of material is an additional U-shaped frame, wider than the U-shaped frame containing the specimen, spanned by 10-mil wires of heat-resistant composition at 1-inch intervals, inserted over the bottom U-shaped frame.

S5.1.4 A bunsen burner with a tube of ⅜-inch inside diameter is used. The gas adjusting valve is set to provide a flame, with the tube vertical, of 1½ inches in height. The air inlet to the burner is closed.

S5.1.5 The gas supplied to the burner has a flame temperature equivalent to that of natural gas.

S5.2 Preparation of specimens.

S5.2.1 Each specimen of material to be tested shall be a rectangle 4 inches wide by 14 inches long; wherever possible. The thickness of the specimen is that of the single or composite material used in the vehicle, except that if the material's thickness exceeds ½ inch, the specimen is cut down to that thickness measured from the surface of the specimen closest to the occupant compartment air space. Where it is not possible to obtain a flat specimen because of surface curvature, the specimen is cut to not more than ½ inch in thickness at any point. The maximum available length or width of a specimen is used where either dimension is less than 14 inches or 4 inches, respectively, unless surrogate testing is required under S4.1.1.

S5.2.2 The specimen is produced by cutting the material in the direction that provides the most adverse test results. The specimen is oriented so that the surface closest to the occupant compartment air space faces downward on the test frame.

S5.2.3 Material with a napped or tufted surface is placed on a flat surface and combed twice against the nap with a comb having seven to eight smooth, rounded teeth per inch.

S5.3 Procedure.

(a) Mount the specimen so that both sides and one end are held by the U-shaped frame, and one end is even with the open end of the frame. Where the maximum available width of a specimen is not more than 2 inches, so that the sides of the specimen cannot be held in the U-shaped frame, place the specimen in position on wire supports as described in S5.1.3, with one end held by the closed end of the U-shaped frame.

(b) Place the mounted specimen in a horizontal position, in the center of the cabinet.

(c) With the flame adjusted according to S5.1.4, position the bunsen burner and specimen so that the center of the burner tip is three-fourths of an inch below the center of the bottom edge of the open end of the specimen.

(d) Expose the specimen to the flame for 15 seconds.

(e) Begin timing (without reference to the period of application of the burner flame) when the flame from the burning specimen reaches a point $1\frac{1}{2}$ inches from the open end of the specimen.

(f) Measure the time that it takes the flame to progress to a point $1\frac{1}{2}$ inches from the clamped end of the specimen. If the flame does not reach the specified end point, time its progress to the point where flaming stops.

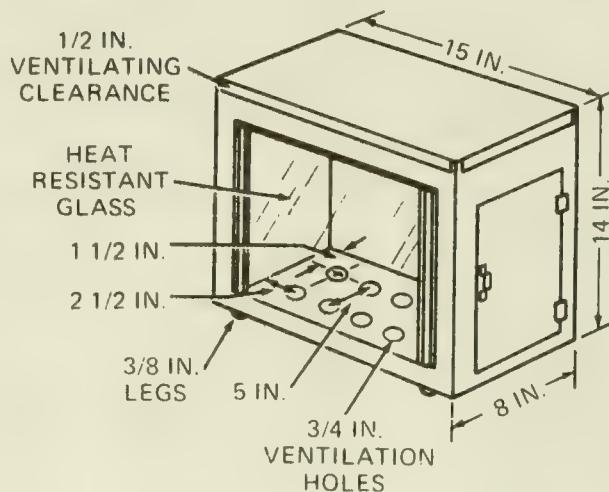
(g) Calculate the burn rate from the formula

$$B = 60 \times \frac{D}{T}$$

Where B=burn rate in inches per minute,

D=length the flame travels in inches, and

T=time in seconds for the flame to travel D inches.



36 F.R. 289

January 8, 1971

MOTOR VEHICLE SAFETY STANDARDS

Notice of Ruling Regarding Chassis-Cabs

Inquiry has been received from persons engaged in the sale of trucks, buses, and multi-purpose vehicles regarding their legal responsibility under the National Traffic and Motor Vehicle Safety Act of 1966 for assuring that vehicles sold by them are in conformity with all applicable motor vehicle safety standards. Such persons commonly purchase chassis-cabs from manufacturers and bodies or work-performing and load-carrying structures from other manufacturers and then combine the chassis-cab with the body or other structure. A regulation is being issued this date by the Federal Highway Administration defining the chassis-cab as a vehicle within the meaning of the Act, requiring that it meet all motor vehicle safety standards applicable on the date of manufacture of the chassis-cab.¹ Under this regulation the manufacturer of a chassis-cab manufactured subsequent to January 1, 1968, will have responsibility for compliance with all applicable motor vehicle safety standards as set forth therein and for certification of such compliance to distributors and dealers.

Section 101(5) of the National Traffic and Motor Vehicle Safety Act defines a "manufacturer" as any person engaged in the "assembling" of motor vehicles. Persons who combine chassis-cabs with bodies or similar structures are, therefore, manufacturers within the meaning of the Act. Inasmuch as the chassis-cab's manufacturer is responsible for compliance with standards under the regulation issued today, persons who add bodies or other structures to such chassis-cab are not considered manufacturers of the chassis-cab and, therefore, will not be responsible for the conformance of the chassis-cab to the standards certified by the manufacturer of the

chassis-cab. In numerous instances the chassis-cab will not be capable of complying with motor vehicle safety standard 108 because it will not be equipped with all items of lighting equipment referred to in such standard. Where vendors combine a chassis-cab which has not been certified to be in conformance with standard 108, with a body or other like structure, such vendor will be responsible for compliance with the lighting standard, and where such vendor sells the combined assemblage to another vendor, certification of compliance with the lighting standard must accompany the vehicle.

We are advised that a substantial inventory of chassis-cabs manufactured prior to the effective date of the initial motor vehicle safety standards and hence not required to comply with the same will be held by manufacturers, distributors, and dealers on January 1, 1968. These vehicles may contain various items of lighting equipment manufactured prior to the effective date of the lighting standard or be designed to accept such equipment. Under these circumstances, it does not appear appropriate to require compliance with the lighting standard when such chassis-cabs, i.e., those manufactured prior to January 1, 1968, are combined with bodies or similar structures. Section 108(a)(1) of the Act also prohibits any person from manufacturing for sale or selling any motor vehicle manufactured "after the date any applicable Federal motor vehicle safety standard takes effect under this title unless it is in conformity with such standard ***." Under this provision persons who combine the chassis-cab with a body or other structure will be responsible for (1) compliance of the combined assemblage with any motor vehicle safety standard applicable to the end use of the combined assemblage in effect on the date of manufacture of the chassis-cab, compliance with which has not already been certified

¹ See F.R. Doc. 67-15174, Title 23, in Rules and Regulations Section, *supra*.

by the chassis-cab manufacturer, and (2) compliance with all applicable standards in effect on the date of manufacture of the chassis-cab to the extent that the addition of a body or other structure to the chassis-cab affects the chassis-cab's previous conformance with applicable standards.

To insure that the person combining the chassis-cab with the body or other structure has adequate information to enable him to meet the conditions specified above, the regulation being issued concurrently with this ruling requires the

chassis-cab manufacturer to affix a label to the chassis-cab which identifies the Federal motor vehicle safety standards with which the chassis-cab fully complies for the principal end uses of such chassis-cab.

Issued in Washington, D.C., on December 29, 1967.

Lowell K. Bridwell,
Federal Highway Administrator

33 F.R. 29
January 3, 1968

FEDERAL MOTOR VEHICLE SAFETY STANDARDS
(FHWA Ruling 68-1)

Notice of Ruling Regarding Campers Slide-in and Chassis-Mount

This ruling is in response to inquiries for a clarification of the applicability of Federal Motor vehicle safety standards to certain items of motor vehicle equipment commonly known as "campers" which are used mostly for recreational purposes.

A "camper" can be described generally as a portable structure designed to be loaded onto, or affixed to, a motor vehicle to provide temporary living quarters for recreation, travel, or other use. The ruling is concerned with two general categories of campers. The first, a "slide-in camper", is placed on, or slides onto a completed vehicle, usually a pickup truck. The second, a "chassis-mount camper", is mounted on a chassis-cab.

In past months the Bureau received a number of written inquiries regarding the applicability of the glazing material standard (No. 205) to slide-in campers. These persons received responses from the Bureau indicating that slide-in campers would have to comply with standard 205 under certain specified conditions. These responses of the Bureau apparently received widespread dissemination in the industry. Subsequently, additional inquiries were received from affected persons asking for clarification of the Bureau's earlier responses with respect to the question of whether standard 205 was applicable to glazing materials contained in slide-in campers sold by the manufacturer of such campers to members of the public and to dealers when not an integral part of the vehicle.

The Bureau has reconsidered this question and determined that the glazing standard is applicable to slide-in campers.

Standard 205 is applicable to "glazing materials for use in passenger cars, multipurpose passenger vehicles, motorcycles, trucks and buses."

The slide-in camper is an item of motor vehicle equipment for use in motor vehicles. As such, glazing materials contained in slide-in campers must comply with standard 205 when such campers are sold as a separate unit as well as when attached to a completed pickup truck. Additionally, manufacturers of slide-in campers must also comply with the certification requirements set forth in section 114 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1403).

Review of the Bureau's prior communications with affected persons indicates that such persons, and others who received notice of such communications, could justifiably have concluded that standard 205 was subject to an interpretation which excluded its application to slide-in campers sold directly to consumers or to dealers when not an integral part of the pickup truck. In these circumstances the Bureau does not regard it as appropriate that the interpretation of the applicability of standard 205, which this ruling announces, should be given retroactive effect. Further, in view of such reliance a reasonable time should be afforded affected parties to allow for possible necessary production adjustments. Accordingly, it is determined that with respect to slide-in campers, the interpretation announced by this ruling shall not become effective until July 1, 1968.

With regard to the chassis-mount camper, it is an integral part of the vehicle when attached to a chassis-cab as defined in § 371.3(b), Part 371, Federal Motor Vehicle Safety Standards (33 F.R. 19).

Persons who mount the chassis-mount camper to the chassis-cab are manufacturers of vehicles within the meaning of section 102(3) of the National Traffic and Motor Vehicle Safety Act

of 1966 (15 U.S.C. 1392). As such, they are to be guided by the regulation and ruling on chassis-cabs issued December 29, 1967 (33 F.R. 19 and 33 F.R. 29). Under this regulation and ruling persons combining a chassis-cab manufactured on or after January 1, 1968, with a body or like structure (in this case the chassis-mount camper) are responsible for assuring that the completed assemblage complies with all applicable standards in effect on the date of manufacture of the chassis-cab which had not previously been met

by the manufacturer of the chassis-cab, and for assuring that previously met standards have not been adversely affected by the addition of the chassis-mount camper.

Issued in Washington, D.C., on March 20, 1968.

Lowell K. Bridwell,
Federal Highway Administrator

33 F.R. 5020
March 26, 1968

Section Three

Part 572—Anthropomorphic Test Dummies

Part 573—Defect and Noncompliance Reports

Part 574—Tire Identification and Recordkeeping

Part 575—Consumer Information Regulations

Part 576—Record Retention

Part 577—Defect and Noncompliance Notification

Part 579—Defect and Noncompliance Responsibility

Part 580—Odometer Disclosure Requirements

Part 581—Bumper Standard

Part 582—Insurance Cost Information Regulations

Part 585—Automatic Restraint Phase-in Reporting Requirements

Part 590—Motor Vehicle Emission Inspections

Part 591—Importation of Vehicles and Equipment Subject to Federal Motor Vehicle Safety Standards

Part 592—Registered Importers of Vehicles Not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards

Part 593—Determinations That a Vehicle Not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards is Eligible for Importation

Part 594—Schedule of Fees Authorized by the National Traffic and Motor Vehicle Safety Act

Department of the Treasury Regulation Relating to Importation of Motor Vehicles and Items of Motor Vehicle Equipment

PREAMBLE TO PART 572—ANTHROPOMORPHIC TEST DUMMY

(Docket No. 73-8; Notice 2)

The purposes of this notice are (1) to adopt a regulation that specifies a test dummy to measure the performance of vehicles in crashes, and (2) to incorporate the dummy into Motor Vehicle Safety Standard No. 208 (49 CFR § 571.208), for the limited purpose of evaluating vehicles with passive restraint systems manufactured under the first and second restraint options between August 15, 1973, and August 15, 1975. The question of the restraint system requirements to be in effect after August 15, 1975, is not addressed by this notice and will be the subject of future rulemaking action.

The test dummy regulation (49 CFR Part 572) and the accompanying amendment to Standard No. 208 were proposed in a notice published April 2, 1973 (38 F.R. 8455). The dummy described in the regulation is to be used to evaluate vehicles manufactured under sections S4.1.2.1 and S4.1.2.2, (the first and second options in the period from August 15, 1973, to August 15, 1975), and the section incorporating the dummy is accordingly limited to those sections. The dummy has not been specified for use with any protection systems after August 15, 1975, nor with active belt systems under the third restraint option (S4.1.2.3). The recent decision in *Ford v. NHTSA*, 473 F. 2d 1241 (6th Cir. 1973), removed the injury criteria from such systems. To make the dummy applicable to belts under the third option, the agency would have to provide additional notice and opportunity for comment.

By invalidating the former test dummy specification, the decision in *Chrysler v. DOT*, 472 F. 2d 659 (6th Cir. 1972), affected the restraint options in effect before August 15, 1975, as well as the mandatory passive restraint requirements that were to be effective after that date. A manufacturer who built cars with passive

restraints under one of the options would therefore be unable to certify the cars as complying with the standard, as illustrated by the necessity for General Motors to obtain a limited exemption from the standard in order to complete the remainder of a run of 1,000 air-bag equipped cars.

The immediate purpose of this rulemaking is to reconstitute those portions of the standard that will enable manufacturers to build passive restraint vehicles during the period when they are optional. The test dummy selected by the agency is the "GM Hybrid II", a composite developed by General Motors largely from commercially available components. GM had requested NHTSA to adopt the Hybrid II on the grounds that it had been successfully used in vehicle tests with passive restraint systems, and was as good as, or better than, any other immediately available dummy system. On consideration of all available evidence, the NHTSA concurs in this judgment. One fact weighing in favor of the decision is that General Motors has used this dummy to measure the conformity of its vehicles to the passive protection requirements of Standard 208, in preparation for the announced introduction of up to 100,000 air-bag-equipped vehicles during the 1974 model year.

No other vehicle manufacturer has announced plans for the production of passive restraint systems during the optional phase, nor has any other vehicle manufacturer come forward with suggestions for alternatives to Hybrid II. The NHTSA would have considered other dummies had some other manufacturer indicated that it was planning to produce passive restraint vehicles during the option period and that some other dummy had to be selected in order to allow them to proceed with their plans. If there had

been any such plans, NHTSA would have made every effort to insure that a test device satisfactory to said manufacturer would have been selected.

This agency recognizes that since various types of dummy systems have been in use under the previous specification, any selection of one dummy, as is required by the *Chrysler* decision, will necessitate readjustments by some manufacturers. However, considering the quantity of GM's production, the scope and advanced state of its passive restraint development program, and the fact that the Hybrid II does not differ radically from other dummies currently in use, in the NHTSA's judgment that dummy represents the best and least costly choice. That conclusion has not been contradicted by the comments to the docket.

The agency will not make any final decision regarding reinstatement of mandatory passive restraint requirements without further notice and opportunity for comment. Should the agency propose mandatory passive restraint requirements, the question of the conformity of the dummy that is chosen with the instructions of the court in *Chrysler* will again be open for comment. The NHTSA strongly encourages the continuance of the dummy test programs mentioned in the comments, in the hope that any problems that may arise can be identified and resolved before the dummy specifications for later periods are issued.

The Hybrid II dummy has been found by NHTSA to be a satisfactory and objective test instrument. In sled and barrier tests conducted by GM with the GM restraint systems and in sled tests conducted by Calspan Corp. on behalf of NHTSA, the Hybrid II has produced results that are consistent and repeatable. This is not to say that each test at the same nominal speed and deceleration has produced identical values.

In testing with impact sleds, and to an even greater extent with crash-tested vehicles, the test environment itself is complex and necessarily subject to variations that affect the results. The test data show, however, that the variance from dummy to dummy in these tests is sufficiently small that a manufacturer would have no difficulty in deciding whether his vehicle would be likely to fail if tested by NHTSA.

The provisions of the dummy regulation have been modified somewhat from those proposed in the notice of proposed rulemaking, largely as a result of comments from GM. Minor corrections have been made in the drawings and materials specifications as a result of comments by GM and the principal dummy suppliers. The dummy specification, as finally adopted, reproduces the Hybrid II in each detail of its design and provides, as a calibration check, a series of performance criteria based on the observed performance of normally functioning Hybrid II components. The performance criteria are wholly derivative and are intended to filter out dummy aberrations that escape detection in the manufacturing process or that occur as a result of impact damage. The revisions in the performance criteria, as discussed hereafter, are intended to eliminate potential variances in the test procedures and to hold the performance of the Hybrid II within the narrowest possible range.

General Motors suggested the abandonment of the definition of "upright position" in section 572.4(c), and the substitution of a set-up procedure in section 572.11 to serve both as a positioning method for the performance tests and as a measurement method for the dummy's dimensions as shown in the drawings. The NHTSA does not object to the use of an expanded set-up procedure, but has decided to retain the term "upright position" with appropriate reference to the new section 572.11(i).

The structural properties test of section 572.5(c), which had proposed that the dummy keep its properties after being subjected to tests producing readings 25 percent above the injury criteria of Standard No. 208, has been revised to provide instead that the properties must be retained after vehicle tests in accordance with Standard No. 208.

The head performance criteria are adopted as proposed. The procedures have been amended to insure that the forehead will be oriented below the nose prior to the drop, to avoid interference from the nose. In response to comments by the Road Research Laboratory, American Motors, and GM, an interval of at least 2 hours between tests is specified to allow full restoration of compressed areas of the head skin.

The neck performance criteria are revised in several respects, in keeping with GM's recommendations. The pendulum impact surface, shown in Figure 4, has been modified in accordance with GM's design. The zero time point has been specified as the instant the pendulum contacts the honeycomb, the instructions for determining chordal displacement have been modified, and the pulse shape of the pendulum deceleration curve has been differently specified. The maximum allowable deceleration for the head has been increased slightly to 26g. In response to suggestions by the Road Research Laboratory and the Japan Automobile Manufacturers Association (JAMA), as well as GM, a tolerance has been specified for the pendulum's impact velocity to allow for minor variances in the honeycomb material.

With respect to the thorax test, each of the minor procedural changes requested by GM has been adopted. As with the head, a minimum recovery time is specified for the thorax. The seating surface is specified in greater detail, and the test probe orientation has been revised to refer to its height above the seating surface. The test probe itself is expressly stated to have a rigid face, by amendment to section 572.11, thereby reflecting the probes actually used by NHTSA and GM. A rigid face for the probe was also requested by Mercedes Benz.

The test procedures for the spine and abdomen tests are specified in much greater detail than before, on the basis of suggestions by GM and others that the former procedures left too much room for variance. The test fixtures for the spinal test orientation proposed by GM, and its proposed method of load application have been adopted. The parts of the dummy to be assembled for these tests are specifically recited, and an initial 50° flexion of the dummy is also specified. The rates of load application and removal, and the method of taking force readings are each specified. The direction of force application is clarified in response to a comment by Volvo.

The abdomen test is amended with respect to the initial point of force measurement, to resolve a particular source of disagreement between GM's data and NHTSA's. The boundaries of

the abdominal force-deflection curve are modified to accord with the measurements taken by GM subsequent to the issuance of the notice. The rate of force application is specified as not more than 0.1 inch per second, in response to comments by Mercedes Benz, JAMA, and GM.

The test procedures for the knee tests are revised to specify the type of seating surface used and to control the angle of the lower legs in accordance with suggestions by JAMA, the Road Research Laboratory, and GM. The instrumentation specifications of section 572.11 are amended to clarify the method of attachment and orientation of the thorax accelerometers and to specify the channel classes for the chest potentiometer, the pendulum accelerometer, and the test probe accelerometer, as requested by several comments.

The design and assembly drawings for the test dummy are too cumbersome to publish in the *Federal Register*. During the comment period on the April 2 notice, the agency maintained master copies of the drawings in the docket and placed the reproducible mylar masters from which the copies were made with a commercial blueprint facility from whom interested parties could obtain copies. The NHTSA has decided to continue this practice and is accordingly placing a master set of drawings in the docket and the reproducible masters for these drawings with a blueprint facility.

The drawings as adopted by this notice differ only in minor detail from those that accompanied the April 2 notice. The majority of the changes, incorporated into corrected drawings, have already been given to those persons who ordered copies. The letter of June 13, 1973, that accompanied the corrected drawings has been placed in the docket. The June corrections are incorporated into the final drawing package. Additional adjustments are made hereby to reflect better the weight distribution of separated segments of the dummy, to allow other materials to be used for head ballast, and to specify the instrument for measuring skin thickness. The details of these changes are recited in a memorandum incorporated into the drawing package.

Each of the final drawings is designated by the legend "NHTSA Release 8/1/73". Each

drawing so designated is hereby incorporated as part of the test dummy specifications of 49 CFR Part 572. Subsequent changes in the drawings will not be made without notice and opportunity for comment.

The incorporation of the Part 572 test dummy into Standard No. 208 makes obsolete several test conditions of the standard that had been adopted to supplement the former test dummy specifications. The location, orientation, and sensitivity of test instrumentation formerly specified by sections S8.1.15 through S8.1.18 are now controlled by Part 572 and are no longer necessary within Standard No. 208. Similarly, the use of rubber components for the head, neck and torso joints as specified in Part 572, supplant the joint setting specifications for those joints in section S8.1.10 of the standard. The NHTSA has determined that the deletion of the above portions of the Standard No. 208 will have no effect on the substantive requirements of the standard and that notice and public procedure thereon are unnecessary.

In consideration of the foregoing, Title 49, Code of Federal Regulations, is amended by the addition of Part 572, Anthropomorphic Test Dummy. . . .

In view of the pressing need for a test dummy to permit the continued development of passive restraint systems, and the fact that it presently only relates to a new option for compliance, the NHTSA finds that there is good cause to adopt an immediate effective date. Accordingly, Part 572 is effective August 1, 1973, and the amendment to Standard 208 is effective August 15, 1973.

Issued under the authority of sections 103 and 119 of the National Traffic and Motor Vehicle Safety Act, P.L. 89-563, 15 U.S.C. 1392, 1407, and the delegation of authority at 38 F.R. 12147.

Issued on July 26, 1973.

James E. Wilson
Associate Administrator
Traffic Safety Programs

38 F.R. 20449
August 1, 1973

PREAMBLE TO AMENDMENT TO PART 572—ANTHROPOMORPHIC TEST DUMMIES

(Docket No. 73-8; Notice 4)

This notice amends Part 572, *Anthropomorphic Test Dummy*, to specify several elements of the dummy calibration test procedures and make minor changes in the dummy design specifications. Part 572 is also reorganized to provide for accommodation of dummies other than the 50th-percentile male dummy in the future.

Part 572 (49 CFR Part 572) establishes, by means of approximately 250 drawings and five calibration tests, the exact specifications of a test device that simulates an adult occupant of a motor vehicle, for use in evaluating certain types of crash protection systems provided in accordance with Standard No. 208, *Occupant Crash Protection* (49 CFR § 571.208). Interested persons are advised that NHTSA Docket Nos. 69-7 and 74-14 concerning Standard No. 208 are related to this rulemaking.

Proposed occupant protection requirements in Standard No. 208 were reviewed by the Sixth Circuit in 1972 (*Chrysler v. Department of Transportation*, 472 F. 2d 659 (6th Cir. 1972)), and the dummy previously specified for use in testing was invalidated as insufficiently objective. The NHTSA subsequently established new dummy specifications under Part 572 for the limited purpose of qualifying passive restraint systems which manufacturers choose to offer on an optional basis (38 FR 20499, August 1, 1973). After examining test experience with the Part 572 dummy, the NHTSA specified its use in a proposal to mandate passive restraint systems (39 FR 10271, March 19, 1974).

Recently, the agency proposed minor changes in calibration procedures and dummy drawings (40 FR 33462, August 8, 1975) in response to the comments of manufacturers and others on the March 1974 notice. The August 1975 proposal only addressed the issue of dummy objectivity

raised by the Sixth Circuit, while issues of dummy similarity to humans, sensitivity to test environment, and dummy positioning in a vehicle have been treated elsewhere (41 FR 29715, July 19, 1976).

It is noted that the most recent Department of Transportation proposals on Standard No. 208 (41 FR 24070, June 14, 1976) reflected a modification of performance requirements that reduce the number and types of tests in which the Part 572 dummy would be used in Standard No. 208 dynamic tests. Specifically, rollover and lateral testing would no longer be required if a lap belt were installed in the front seating positions. The NHTSA's July 1976 proposal noted above would conform existing tests in Standard No. 208 to the modified approach. It would also increase the permissible femur force loads that could be registered on the dummy during impact, and restrict femur force requirements to compressive forces. Interested persons should be aware of these significant potential changes in the use of the dummy in Standard No. 208.

As for the dummy objectivity treated by the proposal that underlies this notice, manufacturers' comments stressed the complexity of the test environment in which the device is used and their uncertainty as to how much the dummy characteristics contribute to the variability that is encountered. In somewhat contradictory fashion, several of the manufacturers repeated requests for a "whole systems" calibration of the dummy that would be conducted under conditions approximating the barrier crash whose complex variables had just been emphasized.

As is the case with any measuring instrument, variations in readings can result from imperfection in the instrument or variations in the phenomenon being measured (in this case, the

complex events that occur as a passenger car impacts a barrier at 30 mph, or is impacted laterally by a 4,000-pound moving barrier, or is rolled over). While the "*Chrysler*" court delayed Standard No. 208 so that variation in the dummy's behavior could be corrected, it found the standard (and the dynamic test procedures) practicable and "designed to meet the need for motor vehicle safety" (472 F2d at 674, 675). To meet the need for motor vehicle safety, the dynamic tests are realistic simulations of the actual crash environment. Variations in the precise circumstances to which the dummy is exposed from test to test are expected.

Simulation of such crashes to provide a "whole systems" calibration of the dummy would not be reasonable, however, because of the variations that are inherent in the 30-mph (and the other) impacts. Unless the inputs to the dummy during calibration are precisely controlled, as is the case with the five sub-assembly tests, the "whole systems" calibration would be meaningless. To conduct precisely controlled 30-mph barrier crash tests as part of the dummy calibration procedure would be very expensive, since dummy calibration is normally performed before and after each compliance test. The good results obtained in sub-assembly calibration, and supported by the controlled "whole dummy" test results referred to in the preamble to the proposal, make such a "whole systems" test redundant. The agency concludes that introduction into Part 572 of an extremely expensive and unfamiliar additional calibration is unjustified.

General Motors (GM), Chrysler Corporation, Ford Motor Company, and the Motor Vehicle Manufacturers Association (MVMA) stated that the dummy construction is unsuited to measurements of laterally-imposed force, thereby rendering the dummy unobjective in the "lateral impact environment." While the agency does not agree with these objections, the modified performance levels put forward by the Department of Transportation and the agency would allow manufacturers to install lap belts if they do not wish to undertake lateral or rollover testing. Any manufacturer that is concerned with the objectivity of the dummy in such impacts would provide lap belts at the front seating positions in lieu of conducting the lateral or rollover tests.

Ford and Chrysler argued that the test dummy is insufficiently specified despite the approximately 250 detailed drawings that set forth dummy construction. Their concern seems to be limited to minor contour dimensions that they consider critical to dummy objectivity. To eliminate any such concern the agency will place a specimen of the dummy in the data and drawings package and incorporate it by reference into Part 572.

The MVMA stated that its reading of the docket comments indicated that the dummy cannot be assembled as it is designed. The agency is aware that dimensional tolerances could, at their extremes, "stack up" to cause the need in rare instances for selective fitting of components. Manufacturers can avoid any such problem by reducing the dispersion of tolerances or by select fitting of components to avoid tolerance "stack-up." Of the three dummy manufacturers' comments on this proposal, only Humanoid Systems (Humanoid) listed discrepancies. The agency has reviewed the asserted discrepancies and concludes that the specifications themselves, the manufacturing practices just noted, or the calibration procedures are adequate to resolve the cited problems. To simplify the dummy, certain studs located at the side of the dummy femurs (used for mounting photographic targets and unnecessary to NHTSA test procedures) are deleted because of their potential for reducing repeatability under some circumstances. These studs are designated F/02, G/02, F/25, and G/25.

Bayerische Motorenwerken recited test experience that demonstrated different performance characteristics among the products of different dummy manufacturers, although they are all warranted to meet the specifications of the regulations. NHTSA Report DOT-HS-801-861 demonstrates that some manufacturer-warranted dummies did not meet all calibration requirements of Part 572. The agency, however, is not in a position to assume responsibility for the contractual terms established between private parties.

Humanoid noted that experience with the vinyl flesh specification of the dummy led to resolution of aging problems on which it had earlier commented. The company did recommend latitude in vinyl formulation to permit market competi-

tion. General Motors also expressed concern that specification of the Part 572 dummy not stifle innovation. Alderson Research Laboratories (ARL) once again asked that the agency specify a one-piece casting in place of the welded head presently specified. The agency sympathizes with this interest in improvement of the dummy manufacturing techniques. However, the dummy is a test instrument crucial to the validity of an important motor vehicle safety standard and as such, it cannot be loosely described for the benefit of innovation.

Volkswagen requested improvement in aging and in storage techniques for the dummy. The agency considers that it has met its responsibilities by specifying calibration tests that will signal improper storage or age-related changes. Further development in this area is within the province of the manufacturers and users. Significant improvements in aging or storage factors will, of course, not be ignored by the agency.

Although Ford and American Motors Corporation (AMC) made no comment on the specifics of the NHTSA proposal, Chrysler Corporation and several other vehicle manufacturers, as well as the dummy manufacturers, supported the proposed changes. The National Motor Vehicle Safety Advisory Council took no position on the proposal. The Vehicle Equipment Safety Commission did not comment on the proposal. Having carefully reviewed all of the comments submitted and additional data compiled by the agency, the changes are adopted, essentially as proposed. The agency proposed modification of the five calibration procedures for dummy sub-assemblies, along with minor changes in the drawings that describe all components of the dummy.

HEAD

The head calibration involves dropping the head 10 inches so that its forehead strikes a rigid surface and registers acceleration levels that must fall within a certain range. No comments were received on the small relocation of measurement points or the specification of "instant release" of the head, and these modifications are made as proposed.

The proposal included a specification of 250 microinches (rms) for the finish of the steel plate on which the head is dropped. The agency had considered other factors (particularly friction at the skull-skin interface of the dummy forehead) that might affect the accelerometer readings. It was found that, in most instances, the dummy as received from the manufacturer conformed to the specifications. When deviations were encountered, treatment of the head in accordance with manufacturer recommendations eliminated the effect of these factors on results. Comparison of data on 100 head drop tests conducted since issuance of the proposal confirms that conclusion. Ninety-seven percent of these head drops registered readings within the specified limits, with a mean response value of 232g and a standard deviation of 14g, indicating a coefficient of variance of 6 percent. Of the three failures, the response values were 203g, 204g and 263g. All of the drop tests fell within the specified 0.9- to 1.5-ms time range at the 100g level. The surface finish of the drop plate was 63 microinches (rms). In view of this data, it does not appear necessary to adjust either the response range as advocated by Humanoid or the time range as recommended by Ford. The test results, however, support the request by a number of comments to change the proposed 250-microinch finish to a value below 100 microinches (rms). On the basis of the comments and NHTSA test data, the impact plate surface finish is specified as any value in the range from 8 to 80 microinches (rms).

General Motors asked whether coating of the steel plate is permitted. Coating is permitted so long as the 8- to 80-microinch range for the surface is maintained.

Humanoid recommended that any lubrication or surface smoothness introduced by the dummy manufacturers be made uniform in the interests of component interchange. Volkswagen also recommended a skull-to-skin interface finish specification. The NHTSA, however, does not believe that differing procedures for preparation of the skull-skin interface prevent interchange of the heads, and the requests are therefore not granted.

In view of the agency decision to incorporate by reference a specimen of the Part 572 dummy in the drawings and data package, it is also considered unnecessary to specify, as requested by Humanoid, thickness and performance specification for the headform at 45 and 90 degrees from the midsagittal plane. With regards to Humanoid's view that head drop tests are irrelevant to performance of the dummy as a measuring instrument, the agency considers them closely tied to the characteristics of the dummy that affect its repeatability as a measuring device.

Renault and Peugeot recommended consideration of a revision in the test criteria of Standard No. 208, in the case of safety belts, to replace the limitation on head acceleration with a limitation on submarining. The agency considers the present limit on head acceleration a valuable means to limit head loading and neck hyperflexion in belt systems as well as other systems. It is a requirement that is already being met on a production basis by Volkswagen.

Toyota stated that the 10g limit on lateral acceleration during the head drop would be impossible to satisfy. The NHTSA's own test experience did not exhibit any evidence of the noted problem. None of the manufacturers of dummies objected to the proposal, and Alderson Research Laboratories (ARL) supported the 10g limit. It is therefore made final as proposed.

ARL once more requested consideration of the one-piece headform in place of the welded headform presently specified. If, as ARL states, its customers accept and utilize the one-piece casting, the agency does not understand the necessity to modify the specification. ARL's request for consideration of a one-piece neck bracket is subject to the same response. As earlier noted, the justification to "freeze" the dummy specification is clear from its use as a measurement instrument that is the basis of manufacturer compliance with, and agency verification testing to, a major motor vehicle safety standard.

NECK

Comments generally agreed with the proposed changes in the dummy neck calibration (attachment of the head form to the neck, and attachment of the neck to the end of a pendulum which

impacts an energy-absorbing element, inducing head rotation which must fall within specified limits). General Motors clarified that its engineers' reason for recommending a non-articulated neck instead of an articulated neck concerned the cost, maintenance, and complexity of the latter's construction. Volkswagen agreed with Sierra Engineering Company (Sierra) that a smaller tolerance for the pendulum's speed at impact should be considered. Humanoid agreed with the agency's view that the articulated neck does not provide the desired level of repeatability at this time. Having considered these comments the agency makes final the proposed location change for the accelerometers, deletion of § 572.7 (c) (5), and clarification of the "t4" point and the 26g level.

Manufacturers made several additional recommendations. Humanoid expressed support of AMC's view that the neck calibration should be conducted at barrier impact velocity. The agency has reviewed these comments and finds that the specified energy levels are adequate for the intended purpose of establishing dynamic response characteristics and the measurement of repeatability of dummy necks under dynamic test conditions. Testing at higher levels would bring other dummy components besides the neck into direct impact interaction, thereby obscuring or completely masking the measured phenomena.

Volkswagen cautioned against an entirely free selection of damping materials because of variation in rebound characteristics produced with different materials that can achieve conforming deceleration time histories. The agency agrees that a limit on rebound should be established to compliment the choice of damping materials and has added such a specification to the end of the text of § 572.7 (b).

Humanoid noted interference in the attachment of the neck bracket to the backplate of the sternothoracic structure, due to the presence of a welding bead. The agency has found no interference in the dummies manufactured by two companies and concludes that the interference must be associated with Humanoid's manufacturing technique.

THORAX

The NHTSA proposed several additional specifications for test probe orientation, dummy seating, and limb positioning for the calibration test. The calibration consists of striking the torso of the seated dummy at two speeds with a specified striker to measure thorax resistance, deflection, and hysteresis characteristics. Comments did not object to the changes and they are incorporated as proposed.

The agency also proposed several changes in the drawings for the thorax sub-assembly of the dummy and, without objection, they are made final in virtually the same form. ARL indicated that four heat seals should be used on the zipper. ARL clarified that the longer socket head cap screw is intended to permit sufficient thread engagement, not more latitude in the ballast configuration as stated in the proposal. Humanoid's request to know the clavicle contours that constitute the Part 572 specification is met by placing the dummy specimen in the drawings and data package as earlier noted. Humanoid and Toyo Kogyo suggested an increase in clavicle strength. The agency's experience with the clavicle since the last consideration of this suggestion has been that all dummies are not significantly susceptible to clavicle breakage. Accordingly, the agency does not consider the modification necessary.

The major suggestion by vehicle and dummy manufacturers was a slight revision of the thorax resistance and deflection values, which must not be exceeded during impact of the chest. The present values (1400 pounds and 1.0 inch at 14 fps, 2100 pounds and 1.6 inches at 22 fps) were questioned by GM, which recommends an increase in both resistance and deflection values to better reflect accurate calibration of a correctly designed dummy. Comparable increases were recommended by Humanoid and Sierra. ARL noted that the present values are extremely stringent.

The agency's experience with calibration of the thorax since issuance of the proposal confirms that a slight increase in values is appropriate, although not the amount of increase recommended by the manufacturers. The values have accordingly been modified to 1450 pounds and 1.1 inches at 14 fps, and 2250 pounds and 1.7 inches at 22 fps. The agency does not set a

minimum limit on the value as recommended by General Motors, because the interaction of the deflection and resistance force values make lower limits unnecessary. The changes in values should ease ARL's concern about the seating surface, although the agency's own experience does not indicate that a significant problem exists with the present specifications of the surface.

In conjunction with these changes, the agency has reduced the maximum permissible hysteresis of the chest during impact to 70 percent as recommended by GM.

GM requested a clarification of the dummy limb positioning procedures for purposes of thorax impact testing, citing the possibility of limb misadjustment between steps (1) and (4) of § 572.8(d). The agency has added wording to subparagraph (4) to make clear that the limbs remain horizontally outstretched. The agency does not consider GM's suggested wording to be adequate for calibration. For example, the attitude of the test probe at impact is not specified. For this reason, the requested modification is not undertaken.

Humanoid requested clarification of paragraph (7) of § 572.8(d) that specifies measurement of horizontal deflection "in line with the longitudinal centerline of the probe." Humanoid expressed concern that, as the thorax rotated backwards, the horizontal measurement could not be made. A clarification has been added to the cited language.

Humanoid also requested a less temperature-sensitive rib damping material than is presently employed. The NHTSA concludes that its strict limitation on permissible temperature and humidity conditions for calibration testing adequately controls the effects of temperature on this damping material.

LUMBAR SPINE, ABDOMEN

The NHTSA proposed minor modifications of the lumbar spine construction, and several changes in the procedures for lumbar spine calibration, which consists of spine flexion from the upright position, followed by release of the force which was required to attain this deflection, and measurement of the return angle. Manufacturers supported the majority of the changes, and

they are made final in this notice. The agency proposed that measurements be taken when "flexing has stopped," and Toyota, noting the difficulty of establishing this point under some circumstances, suggested that the measurement be made 3 minutes after release. This modification is reasonable and is included in the final action.

Testing at NHTSA's Safety Research Laboratory demonstrates the need to clarify proposed § 572.9(c)(3) to specify return of the lumbar spine sufficiently so that it remains in "its initial position in accordance with Figure 11" unassisted. An appropriate further specification has been made.

Humanoid requested that the four-bolt attachment of the push plate be revised to two-bolt attachment in view of Humanoid's practice of providing a two-bolt plate. The agency has undertaken its data collection using four-bolt attachment, and to preserve the uncontested validity of these data, declines to modify the proposed specification.

ARL requested reconsideration of NHTSA's decision to leave unchanged the lumbar cable ball and socket attachment design. The agency has continued to examine test results and cannot conclude that the present attachment design has caused a calibration or compliance problem. Accordingly, ARL's request is denied. An ARL request to limit the reference to the strength requirements of the military specification in the case of lumbar cable swaging is granted. If such a limitation were not specified, the other elements of the military specification might arguably be included in the NHTSA's specification.

Calibration of the abdomen of the dummy is accomplished by application of a specified force to the abdomen while the dummy torso is placed on its back, with a required "force/deflection" curve resulting. The proposal added a range of force application rates to make the procedure more uniform, as well as a 10-pound preload and further specification of the horizontal surface. Manufacturers did not oppose these changes.

Manufacturers did oppose the proposed specification changes that would require the dummy abdominal sac to be sealed. Various reasons unrelated to abdomen performance were listed (e.g., transportation of sealed sac in unpressur-

ized aircraft compartment) and available data show successful calibration in both configurations. In view of the expressed preference for the unsealed design, the leak test has been removed from the drawings, and the vent is retained.

Humanoid requested that the shape of the abdominal insert be modified to conform more closely to the dummy's abdominal cavity. The shape of the insert affects the dummy performance, however, and the agency does not consider a change with unknown consequences advisable at this time. The agency also concludes that Humanoid's request to drop all specification of wall thickness for the abdominal sac is also unadvisable for this reason.

Ford, the MVMA, and Humanoid noted an asymmetry of the dummy pelvic castings and requested a justification for it. The asymmetry is apparently an artifact of the adoption of Society of Automotive Engineers specifications, whose origin is unknown. In the agency's judgment, based on experience with numerous Part 572 dummies and evaluation of test results, no degradation in performance is attributable to the asymmetry. While the agency intends to further review the asymmetry noted, no action will be taken without evidence that the specification affects testing.

LIMBS

Little comment was received on the changes proposed for limb calibration, which consists of impacting the knees of a seated dummy with a test probe of a specified weight at a specified speed and measuring the impact force on the dummy femurs. In response to Toyota's request for clarification, the positioning in accordance with § 572.11 is followed by the leg adjustments specified in § 572.10(c), which have the effect of changing leg position from that achieved under § 572.11.

The proposed specification of vinyl skin thickness over the knee face was supported in comments, although two manufacturers requested that the thickness tolerance be moved upward to thicken the skin somewhat. Humanoid did suggest elimination of the femur calibration as useless, but the agency considers such a control important to repeatable performance of the dummy.

Ford interpreted information contained in contract work undertaken for the NHTSA (DOT-HS-4-00873) to show that femur force loads registered too high in 50 percent of cases conducted under the calibration conditions of the standard. In NHTSA tests of 100 dummy knees on Part 572 dummies (DOT-HS-801 861), the 2,500-pound limit was exceeded only twice. The same data indicated a tendency for the femur to register lower than previously estimated, and a minor reduction of the lower limit is established in this action. The agency considers the small reduction to fall within the ambit of the proposal to improve conditions for calibration.

Ford's and Humanoid's observations with regard to off-center impacts that result in bending or torque have been dealt with in the recent agency proposal to limit femur force requirements of Standard No. 208 to compressive force. As for Humanoid's concern that unacceptable variation is possible in the femur load cell, it is noted that General Motors and Volkswagen have both certified thousands of vehicles based on impact readings taken from this dummy with these femur cells installed.

GENERAL TEST CONDITIONS

The agency proposed minor changes in the general test conditions of § 572.11 that apply to dummy test, such as a minimum period of dummy exposure to the temperature and humidity at which calibration tests are conducted. With correction of accelerometer locations, a clarification of dummy positioning, and an increase of zipper heat seals from three to four, the contemplated changes are made as proposed.

Sierra requested a broader range of humidity conditions for the calibration tests, stating that a range of 10- to 90-percent humidity would not affect results of "performance tests." The company cited freezing and desert heat conditions as reasons for a 6-hour conditioning rather than the 4-hour conditioning proposed by the agency. Humanoid and Toyota also addressed this aspect of the general test conditions. It appears that Sierra misunderstood the temperature and humidity specifications as applicable to vehicle performance tests. This rulemaking action addresses only calibration tests which presumably would be conducted indoors in a temperature-

controlled setting. Because the dummies are not expected to be stored in areas of great temperature extremes prior to calibration testing, the proposed ranges of humidity and temperature conditions are considered to be effective to stabilize the affected dummy properties. While instrumentation would be affected by the 90-percent humidity condition suggested by Sierra, the agency has reduced the lower humidity condition to a 10-percent level in agreement that the change does not affect the ability to calibrate the dummy.

Sierra objected that a dummy manufacturer's warranty of conformity of its products to Part 572 would be complicated by a time specification for temperature and humidity conditioning. The company believed that its customers would require that 4 hours of conditioning occur whether or not the dummy had already stabilized at the correct temperature. The agency sees no reason why a purchaser would insist on a senseless condition but, in any case, has no control over the contractual dealings between the dummy manufacturer and the purchaser. The NHTSA cannot delete necessary stabilizing conditions from its regulations simply because a purchaser wishes to make an unreasonable contractual specification based on it. The same rationale is responsive to Sierra's request for shorter recovery intervals between repeated tests.

Toyota supplied data to demonstrate that more consistent thorax and knee impact tests could be achieved by using cotton pants on the dummy. The agency's data do not agree with Toyota's and no other manufacturer took issue with the agency's proposal to delete all clothing requirements. This deletion is made final as proposed.

ARL asked why the agency's proposed prohibition against painting dummy components is qualified to state "except as specified in this part or in drawings subtended by this part." This qualification simply preserves the agency's opportunity to specify painted components in the future.

No conclusive evidence of preferable storage methods was submitted by commenters. The agency therefore does not specify that the dummy calibrations be preceded by positioning in a specific posture. To avoid the possibility of introducing a variable, however, the eye bolt in the

dummy head has been relabeled on the drawings as "not for use in suspending dummy in storage."

Interested persons are advised that the first stage of choosing a replacement foaming agent for the specified Nitrosan are complete. Details are available in document HS-802-030 in the public docket.

In accordance with recently enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 FR 16200, April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this action on the public and private sectors, including possible loss of safety benefits. The changes made are all to existing specifications and calibration procedures and are intended as clarifications of specifications already established. Therefore, the cost of the changes are calculated as minimal, consisting at most of relatively small modifications of test equipment and minor dummy components. The number and complexity of calibration tests are not affected by the changes. At the same time, the clarification will improve a manufacturer's ability to conduct compliance tests of safety systems and will thereby contribute to an increase in motor vehicle safety.

Note—

The economic and inflationary impacts of this rulemaking have been carefully evaluated in accordance with Office of Management and Budget Circular A-107, and an Inflation Impact Statement is not required.

In anticipation of the use of dummies other than the 50th-percentile male dummy in compliance testing, the agency takes this opportunity to reorganize Part 572 so that the 50th-percentile dummy occupies only one Subpart.

In consideration of the foregoing, 49 CFR Part 572, *Anthropomorphic Test Dummy*, and the dummy design drawings incorporated by reference in Part 572, are amended

Effective date: August 8, 1977.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.50.)

Issued on January 31, 1977.

John W. Snow
Administrator

42 F.R. 7148
February 7, 1977

PREAMBLE TO AMENDMENT TO PART 572—ANTHROPOMORPHIC TEST DUMMIES**(Docket No. 74-14; Notice 11; Docket No. 73-8; Notice 07)**

This notice amends occupant crash protection Standard No. 208 and its accompanying test dummy specification to further specify test procedures and injury criteria. The changes are minor in most respects and reflect comments by manufacturers of test dummies and vehicles and the NHTSA's own test experience with the standard and the test dummy.

Date: Effective date—July 5, 1978.

Addresses: Petitions for reconsideration should refer to the docket number and be submitted to: Docket Section, Room 5108, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590.

For further information contact:

Mr. Guy Hunter,
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Administration,
Washington, D.C. 20590
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Supplementary information: Standard No. 208, *Occupant Crash Protection* (49 CFR 571.208), is a Department of Transportation safety standard that requires manufacturers to provide a means of restraint in new motor vehicles to keep occupants from impacting the vehicle interior in the event a crash occurs. The standard has, since January 1968, required the provision of seat belt assemblies at each seating position in passenger cars. In January 1972 the requirements for seat belts were upgraded and options were added to permit the provision of restraint that is "active" (requiring some action be taken by the vehicle occupant, as in the case of seat belts) or "passive" (providing protection without action being taken by the occupant).

In a separate notice issued today (42 FR 34289; FR Reg. 77-19137), the Secretary of

Transportation has reached a decision regarding the future occupant crash protection that must be installed in passenger cars. The implementation of that decision will involve the testing of passive restraint systems in accordance with the test procedures of Standard No. 208, and this notice is intended to make final several modifications of that procedure which have been proposed for change by the NHTSA. This notice also responds to two petitions for reconsideration of rulemaking involving the test dummy that is used to evaluate the compliance of passive restraints systems.

DOCKET 74-14; NOTICE 05

Notice 5 was issued July 15, 1976 (41 FR 29715; July 19, 1976) and proposed that Standard No. 208's existing specification for passive protection in frontal, lateral, and rollover modes (S4.1.2.1) be modified to specify passive protection in the frontal mode only, with an option to provide passive protection or belt protection in the lateral and rollover crash modes. Volkswagen had raised the question of the feasibility of small cars meeting the standard's lateral impact requirements: A 20-mph impact by a 4,000-pound, 60-inch-high flat surface. The agency noted the particular vulnerability of small cars to side impact and the need to provide protection for them based on the weight of other vehicles on the highway, but agreed that it would be difficult to provide passive lateral protection in the near future. Design problems also underlay the proposal to provide a belt option in place of the existing passive rollover requirement.

Ford Motor Company argued that a lateral option would be inappropriate in Standard No. 208 as long as the present dummy is used for

measurement of passive system performance. This question of dummy use as a measuring device is treated later in this notice. General Motors Corporation (GM) supported the option without qualification, noting that the installation of a lap belt with a passive system "would provide comparable protection to lap-shoulder belts in side and rollover impacts." Chrysler did not object to the option, but noted that the lap belt option made the title of S4.1.2.1 ("complete passive protection") misleading. Volkswagen noted that its testing of belt systems without the lap belt portion showed little loss in efficacy in rollover crashes. No other comments on this proposal were received. The existing option S4.1.2.1 is therefore adopted as proposed so that manufacturers will be able to immediately undertake experimental work on passive restraints on an optional basis in conformity with the Secretary's decision.

There were no objections to the agency's proposal to permit either a Type 1 or Type 2 seat belt assembly to meet the requirements, and thus it is made final as proposed.

The NHTSA proposed two changes in the injury criteria of S6 that are used as measures of a restraint system's qualification to Standard No. 208. One change proposed an increase in permissible femur force limits from 1,700 pounds to 2,250 pounds. As clarification that tension loads are not included in measurement of these forces, the agency also proposed that the word "compressive" be added to the text of S6.4. Most commenters were cautionary about the changes, pointing out that susceptibility to fracture is time dependent, that acetabular injury could be exacerbated by increased forces, and that angular applications of force were as likely in the real world as axial forces and would more likely fracture the femur.

The agency is aware of and took into account these considerations in proposing the somewhat higher femur force limit. The agency started with the actual field experience of occupants of GM and Volkswagen vehicles that have been shown to produce femur force readings of about 1,700 pounds. Occupants of these vehicles involved in crashes have not shown a significant

incidence of femur fracture. The implication from this experience that the 1,700-pound figure can safely be raised somewhat is supported in work by Patrick on compressive femur forces of relatively long duration. The Patrick data (taken with aged embalmed cadavers) indicate that the average fracture load of the patella-femur-pelvis complex is 1,910 pounds. This average is considered conservative, in that cadaver bone structure is generally weaker than living human tissues. While these data did not address angular force applications, the experience of the GM and Volkswagen vehicle occupants does suggest that angular force application can go higher than 1,700 pounds.

The agency does not agree that the establishment of the somewhat higher outer limit for permissible femur force loads of 2,250 pounds is arbitrary. What is often ignored by the medical community and others in commenting on the injury criteria found in motor vehicle safety standards is that manufacturers must design their restraint systems to provide greater protection than the criteria specified, to be certain that each of their products will pass compliance tests conducted by the NHTSA. It is a fact of industrial production that the actual performance of some units will fall below nominal design standards (for quality control and other reasons). Volkswagen made precisely this point in its comments. Because the National Traffic and Motor Vehicle Safety Act states that each vehicle must comply (15 U.S.C. § 1392(a)(1)(a)), manufacturers routinely design in a "compliance margin" of superior performance. Thus, it is extremely unlikely that a restraint system designed to meet the femur force load criterion of 2,250 pounds will in fact be designed to provide only that level of performance. With these considerations in mind, the agency makes final the changes as proposed.

While not proposed for change, vehicle manufacturers commented on a second injury criterion of the standard: A limitation of the acceleration experienced by the dummy thorax during the barrier crash to 60g, except for intervals whose cumulative duration is not more than 3 milliseconds (ms). Until August 31, 1977, the agency has specified the Society of Automotive Engi-

neers' (SAE) "severity index" as a substitute for the 60g-3ms limit, because of greater familiarity of the industry with that criterion.

General Motors recommended that the severity index be continued as the chest injury criterion until a basis for using chest deflection is developed in place of chest acceleration. GM cited data which indicate that chest injury from certain types of blunt frontal impact is a statistically significant function of chest deflection in humans, while not a function of impact force or spinal acceleration. GM suggested that a shift from the temporary severity index measure to the 60g-3ms measurement would be wasteful, because there is no "strong indication" that the 60g-3ms measurement is more meaningful than the severity index, and some restraint systems have to be redesigned to comply with the new requirement.

Unlike GM, Chrysler argued against the use of acceleration criteria of either type for the chest, and rather advocated that the standard be delayed until a dummy chest with better deflection characteristics is developed.

The Severity Index Criterion allows higher loadings and therefore increases the possibility of adverse effects on the chest. It only indirectly limits the accelerations and hence the forces which can be applied to the thorax. Acceleration in a specific impact environment is considered to be a better predictor of injury than the Severity Index.

NHTSA only allowed belt systems to meet the Severity Index Criterion of 1,000 instead of the 60g-3ms criterion out of consideration for lead-time problems, not because the Severity Index Criterion was considered superior. It is recognized that restraint systems such as lap-shoulder belts apply more concentrated forces to the thorax than air cushion restraint, and that injury can result at lower forces and acceleration levels. It is noted that the Agency is considering rulemaking to restrict forces that may be applied to the thorax by the shoulder belt of any seat belt assembly (41 FR 54961; December 16, 1976).

With regard to the test procedures and conditions that underlie the requirements of the standard, the agency proposed a temperature range for testing that would be compatible with the

temperature sensitivity of the test dummy. The test dummy specification (Part 572, "*Anthropomorphic Test Dummy*," 49 CFR Part 572) contains calibration tests that are conducted at any temperature between 66° and 78° F. This is because properties of lubricants and nonmetallic parts used in the dummy will change with large temperature changes and will affect the dummy's objectivity as a test instrument. It was proposed that the Standard No. 208 crash tests be conducted within this temperature range to eliminate the potential for variability.

The only manufacturers that objected to the temperature specification were Porsche, Bayerische Motoren Werke (BMW), and American Motors Corporation (AMC). In each case, the manufacturers noted that dynamic testing is conducted outside and that it is unreasonable to limit testing to the few days in the year when the ambient temperature would fall within the specified 12-degree range.

The commenters may misunderstand their certification responsibilities under the National Traffic and Motor Vehicle Safety Act. Section 108(b)(2) limits a manufacturer's responsibility to the exercise of "due care" to assure compliance. The NHTSA has long interpreted this statutory "due care" to mean that the manufacturer is free to test its products in any fashion it chooses, as long as the testing demonstrates that due care was taken to assure that, if tested by NHTSA as set forth in the standard, the product would comply with the standard's requirements. Thus, a manufacturer could conduct testing on a day with temperatures other than those specified, as long as it could demonstrate through engineering calculations or otherwise, that the difference in test temperatures did not invalidate the test results. Alternatively, a manufacturer might choose to perform its preparation of the vehicle in a temporarily erected structure (such as a tent) that maintains a temperature within the specified range, so that only a short exposure during acceleration to the barrier would occur in a higher or lower temperature. To assist any such arrangements, the test temperature condition has been limited to require a stabilized temperature of the test dummy only, just prior to the vehicle's travel toward the barrier.

In response to an earlier suggestion from GM, the agency proposed further specificity in the clothing worn by the dummy during the crash test. The only comment was filed by GM, which argued that any shoe specification other than weight would be unrelated to dummy performance and therefore should not be included in the specification. The agency disagrees, and notes that the size and shape of the heel on the shoe can affect the placement of the dummy limb within the vehicle. For this reason, the clothing specifications are made final as proposed, except that the requirement for a conforming "configuration" has been deleted.

Renault and Peugeot asked for confirmation that pyrotechnic pretensioners for belt retractors are not prohibited by the standard. The standard's requirements do not specify the design by which to provide the specified protection, and the agency is not aware of any aspect of the standard that would prohibit the use of pretensioning devices, as long as the three performance elements are met.

With regard to the test dummy used in the standard, the agency proposed two modifications of Standard No. 208: a more detailed positioning procedure for placement of the dummy in the vehicle prior to the test, and a new requirement that the dummy remain in calibration without adjustment following the barrier crash. Comments were received on both aspects of the proposal.

The dummy positioning was proposed to eliminate variation in the conduct of repeatable tests, particularly among vehicles of different sizes. The most important proposed modification was the use of only two dummies in any test of front seat restraints, whether or not the system is designed for three designated seating positions. The proposal was intended to eliminate the problem associated with placement of three 50th-percentile male dummies side-by-side in a smaller vehicle. In bench seating with three positions, the system would have to comply with a dummy at the driver's position and at either of the other two designated seating positions.

GM supported this change, but noted that twice as many tests of 3-position bench-seat vehicles would be required as before. The company suggested using a simulated vehicle crash as a

means to test the passive restraint at the center seat position. The agency considers this approach unrepresentative of the actual crash pulse and vehicle kinematic response (e.g., pitching, yawing) that occur during an impact. To the degree that GM can adopt such an approach in the exercise of "due care" to demonstrate that the center seating position actually complies, the statute does not prohibit such a certification approach.

Ford objected that the dummy at the center seat position would be placed about 4 inches to the right of the center of the designated seating position in order to avoid interference with the dummy at the driver's position. While the NHTSA agrees that a small amount of displacement is inevitable in smaller vehicles, it may well occur in the real world also. Further, the physical dimensions of the dummy preclude any other positioning. With a dummy at the driver's position, a dummy at the center position cannot physically be placed in the middle of the seat in all cases. In view of these realities, the agency makes final this aspect of the dummy positioning as proposed.

GM suggested the modification of other standards to adopt "2-dummy" positioning. The compatibility among dynamic tests is regularly reviewed by the NHTSA and will be again following this rulemaking action. For the moment, however, only those actions which were proposed will be acted on.

As a general matter with regard to dummy positioning, General Motors found the new specifications acceptable with a few changes. GM cautioned that the procedure might not be sufficiently reproducible between laboratories, and Chrysler found greater variation in positioning with the new procedures than with Chrysler's own procedures. The agency's use of the procedure in 15 different vehicle models has shown consistently repeatable results, as long as a reasonable amount of care is taken to avoid the effect of random inputs (see "Repeatability of Set Up and Stability of Anthropometric Landmarks and Their Influence on Impact Response of Automotive Crash Test Dummies." Society of Automotive Engineers, Technical Paper No. 770260, 1977). The agency concludes that, with the

minor improvements cited below, the positioning procedure should be made final as proposed.

The dummy is placed at a seating position so that its midsagittal plane is vertical and longitudinal. Volkswagen argued against use of the midsagittal plane as a reference for dummy placement, considering it difficult to define as a practical matter during placement. The agency has used plane markers and plane lines to define the midsagittal plane and has experienced no significant difficulty in placement of the dummy with these techniques. For this reason, and because Volkswagen suggested no simpler orientation technique, the agency adopts use of the midsagittal plane as proposed.

Correct spacing of the dummy's legs at the driver position created the largest source of objections by commenters. Ford expressed concern that an inward-pointing left knee could result in unrealistically high femur loads because of femur-to-steering column impacts. GM asked that an additional 0.6 inch of space be specified between the dummy legs to allow for installation of a device to measure steering column displacement. Volkswagen considered specification of the left knee bolt location to be redundant in light of the positioning specification for the right knee and the overall distance specification between the knees of 14.5 inches.

The commenters may not have understood that the 14.5- and 5.9-inch dimensions are only initial positions, as specified in S8.1.11.1.1. The later specification to raise the femur and tibia centerlines "as close as possible to vertical" without contacting the vehicle shifts the knees from their initial spacing to a point just to the left and right of the steering column.

As for GM's concern about instrumentation, the agency does not intend to modify this positioning procedure to accommodate instrumentation preferences not required for the standard's purposes. GM may, of course, make test modifications so long as it assures, in the exercise of due care, that its vehicles will comply when tested in accordance with the specification by the agency.

In the case of a vehicle which is equipped with a front bench seat, the driver dummy is placed on the bench so that its midsagittal plane inter-

sects the center point of the plane described by the steering wheel rim. BMW pointed out that the center plane of the driver's seating position may not coincide with the steering wheel center and that dummy placement would therefore be unrealistic. Ford believed that the specification of the steering wheel reference point could be more precisely specified.

The agency believes that BMW may be describing offset of the driver's seat from the steering wheel in bucket-seat vehicles. In the case of bench-seat vehicles, there appears to be no reason not to place the dummy directly behind the steering wheel. As for the Ford suggestion, the agency concludes that Ford is describing the same point as the proposal did, assuming, as the agency does, that the axis of the steering column passes through the center point described. The Ford description does have the effect of moving the point a slight distance laterally, because the steering wheel rim upper surface is somewhat higher than the plane of the rim itself. This small distance is not relevant to the positioning being specified and therefore is not adopted.

In the case of center-position dummy placement in a vehicle with a drive line tunnel, Ford requested further specification of left and right foot placement. The agency has added further specification to make explicit what was implicit in the specifications proposed.

Volkswagen suggested that the NHTSA had failed to specify knee spacing for the passenger side dummy placement. In actuality, the specification in S8.1.11.1.2 that the femur and tibia centerlines fall in a vertical longitudinal plane has the effect of dictating the distance between the passenger dummy knees.

The second major source of comments concerned the dummy settling procedure that assures uniformity of placement on the seat cushion and against the seat back. Manufacturers pointed out that lifting the dummy within the vehicle, particularly in small vehicles and those with no rear seat space, cannot be accomplished easily. While the NHTSA recognizes that the procedure is not simple, it is desirable to improve the uniformity of dummy response and it has been accomplished by the NHTSA in several small cars (e.g., Volkswagen Rabbit, Honda Civic, Fiat

Spider, DOT HS-801-754). Therefore, the requests of GM and Volkswagen to retain the method that does not involve lifting has been denied. In response to Renault's question, the dummy can be lifted manually by a strap routed beneath the buttocks. Also, Volkswagen's request for more variability in the application of rearward force is denied because, while difficult to achieve, it is desirable to maintain uniformity in dummy placement. In response to the requests of several manufacturers, the location of the 9-square-inch push plate has been raised 1.5 inches, to facilitate its application to all vehicles.

Volkswagen asked with regard to S10.2.2 for a clarification of what constitutes the "lumbar spine" for purposes of dummy flexing. This refers to the point on the dummy rear surface at the level of the top of the dummy's rubber spine element.

BMW asked the agency to reconsider the placement of the driver dummy's thumbs over the steering wheel rim because of the possibility of damage to them. The company asked for an option in placing the hands. The purpose of the specification in dummy positioning, however, is to remove discretion from the test personnel, so that all tests are run in the same fashion. An option under these circumstances is therefore not appropriate.

Ultrasystems, Inc., pointed out two minor errors in S10.3 that are hereby corrected. The upper arm and lower arm centerlines are oriented as nearly as possible in a vertical plane (rather than straight up in the vertical), and the little finger of the passenger is placed "barely in contact" with the seat rather than "tangent" to it.

Two corrections are made to the dummy positioning procedure to correct obvious and unintended conflicts between placement of the dummy thighs on the seat cushion and placement of the right leg and foot on the acceleration pedal.

In addition to the positioning proposed, General Motors suggested that positioning of the dummy's head in the fore-and-aft axis would be beneficial. The agency agrees and has added such a specification at the end of the dummy settling procedure.

In a matter separate from the positioning procedure, General Motors, Ford, and Renault requested deletion of the proposed requirement that the dummy maintain proper calibration following a crash test without adjustment. Such a procedure is routine in test protocols and the agency considered it to be a beneficial addition to the standard to further demonstrate the credibility of the dummy test results. GM, however, has pointed out that the limb joint adjustments for the crash test and for the calibration of the lumber bending test are different, and that it would be unfair to expect continued calibration without adjustment of these joints. The NHTSA accepts this objection and, until a means for surmounting this difficulty is perfected, the proposed change to S8.1.8 is withdrawn.

In another matter unrelated to dummy positioning, Volkswagen argued that active belt systems should be subject to the same requirements as passive belt systems, to reduce the cost differential between the compliance tests of the two systems. As earlier noted the NHTSA has issued an advance Notice of Proposed Rulemaking (41 FR 54961, December 16, 1976) on this subject and will consider Volkswagen's suggestion in the context of that rulemaking.

Finally, the agency proposed the same belt warning requirements for belts provided with passive restraints as are presently required for active belts. No objections to the requirement were received and the requirement is made final as proposed. The agency also takes the opportunity to delete from the standard the out-of-date belt warning requirements contained in S7.3 of the standard.

RECONSIDERATION OF DOCKET 73-8; NOTICE 04

The NHTSA has received two petitions for reconsideration of recent amendments in its test dummy calibration test procedures and design specifications (Part 572, "*Anthropomorphic Test Dummy*," 49 CFR Part 572). Part 572 establishes, by means of approximately 250 drawings and five calibration tests, the exact specifications of the test device referred to earlier in this notice that simulates the occupant of a motor vehicle for crash testing purposes.

Apart from requests for a technical change of the lumbar flexion force specifications, the petitions from General Motors and Ford contained a repetition of objections made earlier in the rule-making about the adequacy of the dummy as an objective measuring device. Three issues were raised: lateral response characteristics of the dummy, failure of the dummy to meet the five subassembly calibration limits, and the need for a "whole systems" calibration of the assembled dummy. Following receipt of these comments, the agency published notification in the *Federal Register* that it would entertain any other comments on the issue of objectivity (42 FR 28200; June 2, 1977). General comments were received from Chrysler Corporation and American Motors, repeating their positions from earlier comments that the dummy does not qualify as objective.

The objectivity of the dummy is at issue because it is the measuring device that registers the acceleration and force readings specified by Standard No. 208 during a 30-mph impact of the tested vehicle into a fixed barrier. The resulting readings for each vehicle tested must remain below a certain level to constitute compliance. Certification of compliance by the vehicle manufacturer is accomplished by crash testing representative vehicles with the dummy installed. Verification of compliance by the NHTSA is accomplished by crash testing one or more of the same model vehicle, also with a test dummy installed. It is important that readings taken by different dummies, or by the same dummy repeatedly, accurately reflect the forces and accelerations that are being experienced by the vehicle during the barrier crash. This does not imply that the readings produced in tests of two vehicles of the same design must be identical. In the real world, in fact, literally identical vehicles, crash circumstances, and test dummies are not physically attainable.

It is apparent from this discussion that an accurate reflection of the forces and accelerations experienced in nominally identical vehicles does not depend on the specification of the test dummy alone. For example, identically specified and responsive dummies would not provide identical readings unless reasonable care is exercised in the preparation and placement of the dummy. Such

care is analogous to that exercised in positioning a ruler to assure that it is at the exact point where a measurement is to commence. No one would blame a ruler for a bad measurement if it were carelessly placed in the wrong position.

It is equally apparent that the forces and accelerations experienced in nominally identical vehicles will only be identical by the greatest of coincidence. The small differences in body structure, even of mass-produced vehicles, will affect the crash pulse. The particular deployment speed and shape of the cushion portion of an inflatable restraint system will also affect results.

All of these factors would affect the accelerations and forces experienced by a human occupant of a vehicle certified to comply with the occupant restraint standard. Thus, achievement of identical conditions is not only impossible (due to the inherent differences between tested vehicles and underlying conditions) but would be unwise. Literally identical tests would encourage the design of safety devices that would not adequately serve the variety of circumstances encountered in actual crash exposure.

At the same time, the safety standards must be "stated in objective terms" so that the manufacturer knows how its product will be tested and under what circumstances it will have to comply. A complete lack of dummy positioning procedures would allow placement of the dummy in any posture and would make certification of compliance virtually impossible. A balancing is provided in the test procedures between the need for realism and the need for objectivity.

The test dummy also represents a balancing between realism (biofidelity) and objectivity (repeatability). One-piece cast metal dummies could be placed in the seating positions and instrumented to register crash forces. One could argue that these dummies did not act at all like a human and did not measure what would happen to a human, but a lack of repeatability could not be ascribed to them. At the other end of the spectrum, an extremely complex and realistic surrogate could be substituted for the existing Part 572 dummy, which would act realistically but differently each time, as one might expect different humans to do.

The existing Part 572 dummy represents 5 years of effort to provide a measuring instrument that is sufficiently realistic and repeatable to serve the purposes of the crash standard. Like any measuring instrument, it has to be used with care. As in the case of any complex instrumentation, particular care must be exercised in its proper use, and there is little expectation of literally identical readings.

The dummy is articulated, and built of materials that permit it to react dynamically, similarly to a human. It is the dynamic reactions of the dummy that introduce the complexity that makes a check on repeatability desirable and necessary. The agency therefore devised five calibration procedures as standards for the evaluation of the important dynamic dummy response characteristics.

Since the specifications and calibration procedures were established in August 1973, a substantial amount of manufacturing and test experience has been gained in the Part 572 dummy. The quality of the dummy as manufactured by the three available domestic commercial sources has improved to the point where it is the agency's judgment that the device is as repeatable and reproducible as instrumentation of such complexity can be. As noted, GM and Ford disagree and raised three issues with regard to dummy objectivity in their petitions for reconsideration.

Lateral response characteristics. Recent sled tests of the Part 572 dummy in lateral impacts show a high level of repeatability from test to test and reproducibility from one dummy to another ("Evaluation of Part 572 Dummies in Side Impacts"—DOT HS 020 858). Further modification of the lateral and rollover passive restraint requirements into an option that can be met by installation of a lap belt makes the lateral response characteristics of the dummy largely academic. As noted in Notice 4 of Docket 73-8 (42 FR 7148; February 7, 1977), "Any manufacturer that is concerned with the objectivity of the dummy in such [lateral] impacts would provide lap belts at the front seating positions in lieu of conducting the lateral or rollover tests."

While the frontal crash test can be conducted at any angle up to 30 degrees from perpendicular to the barrier face, it is the agency's finding that

the lateral forces acting on the test instrument are secondary to forces in the midsagittal plane and do not operate as a constraint on vehicle and restraint design. Compliance tests conducted by NHTSA to date in the 30-degree oblique impact condition have consistently generated similar dummy readings. In addition, they are considerably lower than in perpendicular barrier impact tests, which renders them less critical for compliance certification purposes.

Repeatability of dummy calibration. Ford questioned the dummy's repeatability, based on its analysis of "round-robin" testing conducted in 1973 for Ford at three different test laboratories (Ford Report No. ESRO S-76-3 (1976)) and on analysis of NHTSA calibration testing of seven test dummies in 1974 (DOT-HS-801-861).

In its petition for reconsideration, Ford equated dummy objectivity with repeatability of the calibration test results and concluded "it is impracticable to attempt to meet the Part 572 component calibration requirements with test dummies constructed according to the Part 572 drawing specifications."

The Ford analysis of NHTSA's seven dummies showed only 56 of 100 instances in which all of the dummy calibrations satisfied the criteria. The NHTSA's attempts to reproduce the Ford calculations to reach this conclusion were unsuccessful, even after including the HO3 dummy with its obviously defective neck. This neck failed badly 11 times in a row, and yet Ford apparently used these tests in its estimate of 56 percent compliance. This is the equivalent of concluding that the specification for a stop watch is inadequate because of repeated failure in a stop watch with an obviously defective part. In this case, the calibration procedure was doing precisely its job in identifying the defective part by demonstrating that it did not in fact meet the specification.

The significance of the "learning curve" for quality control in dummy manufacture is best understood by comparison of three sets of dummy calibration results in chronological order. Ford in earlier comments relied on its own "round-robin" crash testing, involving nine test dummies. Ford stated that none of the nine dummies could pass all of the component calibration require-

ments. What the NHTSA learned through follow-up questions to Ford was that three of the nine dummies were not built originally as Part 572 dummies, and that the other six were not fully certified by their manufacturers as qualifying as Part 572 dummies. In addition, Ford instructed its contractors to use the dummies as provided whether or not they met the Part 572 specifications.

In contrast, recent NHTSA testing conducted by Calspan (DOT-HS-6-01514, May and June 1977 progress reports) and the results of tests conducted by GM (USG 1502, Docket 73-8, GR 64) demonstrate good repeatability and reproducibility of dummies. In the Calspan testing a total of 152 calibration tests were completed on four dummies from two manufacturers. The results for all five calibration tests were observed to be within the specified performance criteria of Part 572. The agency concludes that the learning curve in the manufacturing process has reached the point where repeatability and reproducibility of the dummy has been fully demonstrated.

Interestingly, Ford's own analysis of its round-robin testing concludes that variations among the nine dummies were not significant to the test results. At the same time, the overall acceleration and force readings did vary substantially. Ford argued that this showed unacceptable variability of the test as a whole, because they had used "identical" vehicles for crash testing. Ford attributed the variations in results to "chance factors," listing as factors placement of the dummy, postural changes during the ride to the barrier, speed variations, uncertainty as to just what part of the instrument panel or other structure would be impact loaded, instrumentation, and any variations in the dynamics of air bag deployment from one vehicle to another.

The agency does not consider these to be uncontrolled factors since they can be greatly reduced by carefully controlling test procedures. In addition, they are not considered to be unacceptable "chance factors" that should be eliminated from the test. The most important advantage of the barrier impact test is that it simulates with some realism what can be experienced by a human occupant, while at the same time limiting variation to achieve repeatability.

As discussed, nominally identical vehicles are not in fact identical, the dynamics of deployment will vary from vehicle to vehicle, and humans will adopt a large number of different seated positions in the real world. The 30-mph barrier impact requires the manufacturer to take these variables into account by providing adequate protection for more than an overly structured test situation. At the same time, dummy positioning is specified in adequate detail so that the manufacturer knows how the NHTSA will set up a vehicle prior to conducting compliance test checks.

"Whole systems" calibration. Ford and GM both suggested a "whole systems" calibration of the dummy as a necessary additional check on dummy repeatability. The agency has denied these requests previously, because the demonstrated repeatability and reproducibility of Part 572 dummies based on current specification is adequate. The use of whole systems calibration tests as suggested would be extremely expensive and would unnecessarily complicate compliance testing.

It is instructive that neither General Motors nor Ford has been specific about the calibration tests they have in mind. Because of the variables inherent in a high energy barrier crash test at 30 mph, the agency judges that any calibration readings taken on the dummy would be overwhelmed by the other inputs acting on the dummy in this test environment. The Ford conclusion from its round-robin testing agrees that dummy variability is a relatively insignificant factor in the total variability experienced in this type of test.

GM was most specific about its concern for repeatability testing of the whole dummy in its comments in response to Docket 74-14; Notice 01:

Dummy whole body response requirements are considered necessary to assure that a dummy, assembled from certified components, has acceptable response as a completed structure. Interactions between coupled components and subsystems must not be assumed acceptable simply because the components themselves have been certified. Variations in coupling may lead to significant variation in dummy response.

There is a far simpler, more controlled means to assure oneself of correct coupling of components than by means of a "whole systems" calibration. If, for example, a laboratory wishes to assure itself that the coupling of the dummy neck structure is properly accomplished, a simple statically applied input may be made to the neck prior to coupling to obtain a sample reading, and then the same simple statically applied input may be repeated after the coupling has been completed. This is a commonly accepted means to assure that "bolting together" the pieces is properly accomplished.

Lumbar spine flexion. The flexibility of the dummy spine is specified by means of a calibration procedure that involves bending the spine through a forward arc, with specified resistance to the bending being registered at specified angles of the bending arc. The dummy's ability to flex is partially controlled by the characteristics of the abdominal insert. In Notice 04, the agency increased the level of resistance that must be registered, in conjunction with a decision not to specify a sealed abdominal sac as had been proposed. Either of these dummy characteristics could affect the lumbar spine flexion performance.

Because of the agency's incomplete explanation for its actions, Ford and General Motors petitioned for reconsideration of the decision to take one action without the other. Both companies suggested that the specification of resistance levels be returned to that which had existed previously. The agency was not clear that it intended to go forward with the stiffer spine flexion performance, quite apart from the decision to not specify an abdomen sealing specification. The purpose for the "stiffer" spine is to attain more consistent torso return angle and to assure better dummy stability during vehicle acceleration to impact speed.

To assure itself of the wisdom of this course of action, the agency has performed dummy calibration tests demonstrating that the amended spine flexion and abdominal force deflection characteristics can be consistently achieved with both vented and unvented abdominal inserts (DOT HS-020875 (1977)).

Based on the considered analysis and review set forth above, the NHTSA denies the petitions

of General Motors and Ford Motor Company for further modification of the test dummy specification and calibration procedures for reasons of test dummy objectivity.

In consideration of the foregoing, Standard No. 208 (49 CFR 571.208) is amended as proposed with changes set forth below, and Part 572 (49 CFR Part 572) is amended by the addition of a new sentence at the end of § 572.5, *General Description*, that states: "A specimen of the dummy is available for surface measurements, and access can be arranged through: Office of Crashworthiness, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590."

In accordance with Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 FR 16200; April 16, 1976), the Department has evaluated the economic and other consequences of this amendment on the public and private sectors. The modifications of an existing option, the simplification and clarification of test procedures, and the increase in femur force loads are all judged to be actions that simplify testing and make it less expensive. It is anticipated that the "two dummy" positioning procedure may occasion additional testing expense in some larger vehicles, but not the level of expense that would have general economic effects.

The effective date for the changes has been established as one year from the date of publication to permit Volkswagen, the only manufacturer presently certifying compliance of vehicles using these test procedures, sufficient time to evaluate the effect of the changes on the compliance of its products.

The program official and lawyer principally responsible for the development of this amendment are Guy Hunter and Tad Herlihy, respectively.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.50.)

Issued on June 30, 1977.

Joan Claybrook
Administrator

42 F.R. 34299

July 5, 1977

PREAMBLE TO AMENDMENT TO PART 572—ANTHROPOMORPHIC TEST DUMMIES REPRESENTING SIX-MONTH-OLD AND THREE-YEAR-OLD CHILDREN

(Docket No. 78-09; Notice 4)

ACTION: Final rule.

SUMMARY: This notice is issued in conjunction with new Standard No. 213, *Child Restraint Systems*, which requires child restraint systems to be dynamically tested using anthropomorphic test dummies representing 6-month-old and 3-year-old children. This notice establishes the specifications for the dummies to be used in the child restraint testing. In addition, it sets performance criteria as calibration checks to assure the repeatability of the dummy's performance.

DATES: The amendment is effective upon publication in the Federal Register. December 27, 1979.

ADDRESSES: Petitions for reconsideration should refer to the docket number and be submitted to: Docket Section, Room 5108, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Mr. Vladislav Radovich, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590
(202-426-2264)

SUPPLEMENTARY INFORMATION:

This notice amends Part 572, *Anthropomorphic Test Dummies*, to establish specifications and performance requirements for two test dummies, one representing a 6-month-old child and the other representing a 3-year-old child. This final rule is issued to supplement new Standard No. 213, *Child Restraint Systems*, published in the *Federal Register* for December 13, 1979 (44 FR 72131). Standard No. 213 evaluates the performance of child restraints in dynamic sled tests using the anthropomorphic test dummies whose specifica-

tions are established in this final rule. Restraints recommended for children weighing 20 pounds or less will be tested with an anthropomorphic dummy representing a 6-month-old child and restraints recommended for children weighing more than 20 pounds, but not more than 50 pounds will be tested with an anthropomorphic dummy representing a 3-year-old child.

On May 18, 1978, NHTSA published a notice of proposed rulemaking for the anthropomorphic test dummy amendment (43 FR 21490) and the child restraint standard (43 FR 21470). The comment closing date for both notices was December 1, 1978. The May 18, 1978, proposal on the anthropomorphic dummies noted that the calibration requirements proposed for the 3-year-old child test dummy were tentative. The agency said it would continue further testing on the calibrations and the results of that work would be placed in the public docket as soon as possible after the testing was completed. Based on the testing, NHTSA tentatively decided to make several minor modifications to the test dummy specifications and calibration requirements to improve the accuracy of the test dummy as a tool for measuring the performance of child restraints. A copy of the modifications was placed in the public docket on September 27, 1978, and the dummy manufacturers and child restraint testing facilities were advised of the modifications. The tentative modifications were published in the *Federal Register* on November 16, 1978 (43 FR 53478).

At the request of the Juvenile Products Manufacturers Association, the agency extended the comment closing date until January 5, 1979, for the portions of the child restraint and test dummy proposals dealing with testing with the anthropomorphic dummies. NHTSA granted the extension because manufacturers were reportedly having problems obtaining the proposed test

dummies to conduct their own evaluations. Based on information gathered by the agency about the availability of testing facilities and dummies, the agency concluded that manufacturers could conduct the necessary testings before the extended comment closing date.

On December 21, 1978, NHTSA made available one of the agency's test dummies to General Motors Corp. (GM) for the purpose of resolving certain calibration problems GM reported it had experienced with its own test dummy. All other interested parties also were advised of the availability of the NHTSA test dummy and informed that NHTSA did not plan to issue a final rule on the test dummy proposal until at least mid-summer. The agency said it would review additional testing material submitted to the docket before issuance of the final rule. The final rule issuance date was subsequently rescheduled for October 1979 in the Department's March 1, 1979, Semi-Annual Regulations Agenda (44 FR Part II, 38) and for November 1979 in the August 27, 1979 Agenda (44 FR 50195).

Following issuance of the May 1978 notice of proposed rulemaking, NHTSA conducted additional testing of the test dummies. This testing, completed in July 1979, further confirmed the results of the agency's prior testing which showed the anthropomorphic dummies to be objective test devices. The results of this testing were periodically placed in the public docket so that all interested parties could comment on them.

This final rule is based on the data obtained in the agency's testing, data submitted in the comments, and data obtained from other pertinent documents and test reports. Significant comments submitted to the docket are addressed below.

Infant Test Dummy

The infant test dummy is based on a simple design representing the dimensions and mass distribution characteristics of a 6-month-old child. The test dummy is used to assess the ability of infant restraints to retain their occupants and maintain their structural integrity during dynamic testing. Because of its construction, the dummy cannot be instrumented to measure the forces that would be exerted upon an infant in a crash. NHTSA's tests have shown the infant dummy will reliably and consistently represent the dynamics of an infant during simulated impact tests.

GM, the only party to comment on the specification for the infant test dummy, reported that it had "no significant problem in building or verifying the compliance of the dummy to the proposed specification." To improve the durability of the test dummy, GM recommended adding a wooden form to the head to maintain its geometry and using steel instead of lead for ballast in the test dummy. Since these recommendations should not affect the dummy's performance and should increase its durability, NHTSA has adopted a modified version of the proposed changes. The changes add a plastic form to the dummy's head, since a plastic form is easier to manufacture and duplicate than a wooden form. In addition, a portion of the ballast materials are now required to be steel and aluminum.

The revised design drawings and a construction manual for the infant dummy are available for examination in the NHTSA docket section, which is open from 7:45 a.m. to 4:15 p.m., Monday through Friday. Copies of these documents can be obtained from: Keuffel and Esser Co., 1512 North Danville Street, Arlington, Virginia 22201.

3-Year-Old Child Test Dummy

The test dummy representing a 3-year-old child is based on the Alderson Model VIP-3C test dummy. It was chosen over the other available test dummies representing a 3-year-old child, such as the Sierra 492-03 test dummy, because it has more complete design details, can adequately withstand the test load imposed during impact testing, has more accurate anthropometry and mass distribution, can be easily instrumented for testing, more closely simulates the responses of a child during impact testing and has more consistent head and chest acceleration measurements during impact testing.

As with the infant test dummy, the final rule establishes a complete set of design specifications for the 3-year-old test dummy. For the 3-year-old test dummy, NHTSA has provided: a drawing package containing all of the technical details of the dummy parts and the stages of dummy manufacture; a set of master patterns for all molded and cast parts of the dummy; and a maintenance manual containing instructions for the assembly, disassembly, use, adjustment and maintenance of the dummy. These materials will ensure that manufacturers can accurately and consistently produce the test dummy.

The drawings and the maintenance manual for the 3-year-old test dummy are available for examination at the agency's docket section. Copies of these drawings and the maintenance manual can be obtained from the Keuffel and Esser Co., 1512 North Danville Street, Arlington, Va. 22201. In addition, patterns for all the cast and molded parts are available on a loan basis from the agency's Office of Vehicle Safety Standards, at the address given at the beginning of this notice.

Calibration Requirements

Unlike the infant test dummy, the 3-year-old child test dummy can be instrumented with accelerometers to measure the forces imposed on the dummy during an impact. Thus, in Standard No. 213, *Child Restraint Systems*, the 3-year-old test dummy is used to measure the amount of head and knee excursion and the magnitude of head and chest acceleration allowed by the child restraint.

Since a test dummy is a complex instrument required to measure important parameters, it is essential that the test dummy be properly calibrated to ensure accurate and repeatable results. NHTSA has developed detailed test dummy specifications and instrumentation requirements to ensure that the test dummies are as much as possible identically constructed and identically instrumented. The agency also developed calibration performance requirements that the test dummy must meet in dynamic and static tests. The calibration tests will determine whether the test dummies are uniformly constructed and properly instrumented.

In its comments, GM reported that it was unable to calibrate its 3-year-old test dummies. As mentioned previously, NHTSA loaned GM one of the agency's test dummies for the purpose of resolving the reported calibration problem. Using the NHTSA test dummy equipped with NHTSA's accelerometers, GM was able to meet the peak resultant acceleration requirements set for the dummy's head in specified pendulum impact tests, but was not able to meet the lateral acceleration requirement. When the same dummy was tested with GM's accelerometers, the dummy did not meet any of the head acceleration performance requirements. In the case of the chest calibration performance requirements, the accelerations measured by GM test dummies and the NHTSA test dummy, using both GM's and NHTSA's accelerometers, were within the range set for peak resultant and lateral acceleration.

GM also said that because the agency did not define the term "unimodal" it was not certain that the acceleration measurements that it made complied with the requirement that the acceleration-time curves for the head and chest impacts be unimodal. To clarify the requirement, NHTSA has defined unimodal in the final rule to mean an acceleration curve that only has one prominent peak and has specified that the measured acceleration-time curve during the head and chest impact testing need only be unimodal during a short time period when the accelerations are above a specified level.

GM attributed the calibration problem to resonances in the head and chest of the test dummies. (A resonance is a vibrational state that can magnify the accelerations imposed on the test dummy and thus prevent the accurate measurement of those accelerations.) GM said that because of the possible inaccurate measurements caused by the resonances, the test dummy cannot be used as an objective tool for assessing the performance of child restraint systems.

The calibration testing done for the agency indicates that the acceleration responses for the head and chest pendulum impacts include a limited amount of vibration. Such responses exist to some extent in any acceleration measuring device and are also found in similar pendulum impact tests of the Part 572 adult test dummy. However, dynamic sled tests of child test dummies in child restraint systems have demonstrated that the test dummies produce very repeatable results and do not show the vibrations found in the more severe pendulum impact tests. The agency's calibration tests also show that the test dummies produce very repeatable results. Even in GM tests of its three test dummies equipped with GM's instrumentation, the test dummies produced repeatable results. Such repeatability could not be obtained with resonating systems. Based on a review of GM's and the agency's test data, NHTSA concludes that the GM calibration failures are not attributable to resonances, but are very likely due to the differences, discussed below, in the mounting of the accelerometers in the GM test dummies.

NHTSA recognizes that because of different instrumentation and test procedures, different test facilities may obtain different results in what are essentially the same tests. To reduce such differences, NHTSA proposed requirements to standardize the test and instrumentation procedures. In calibration tests conducted at Calspan

Corporation the measurements of the peak resultant head accelerations and the lateral head acceleration were found to be close to the upper limits of the tentative head calibration requirements (112 g peak resultant acceleration and 5 g lateral acceleration) proposed by the agency. To further accommodate expected differences between different testing facilities, NHTSA has decided to broaden the head acceleration calibration requirements for peak resultant head acceleration to 115 g's and for lateral acceleration to 7 g's.

Instrumentation

Based on a review of GM's and the agency's test data, NHTSA concludes that one of the significant differences between NHTSA's and GM's test dummy is the manner in which the accelerometer mounting plate is attached to the head of the test dummy. Finding what it thought was an incompatibility between the angle of the accelerometer mounting plate bolt and the angle of the surface of the plate that attaches to the dummy's head, GM changed the angle of the surface in its test dummies. However, NHTSA specified the difference in the two angles for an important reason. Having a difference in the angles allows for a firmer attachment of the accelerometer mounting plate to the dummy. The difference in the firmness of the attachment of the accelerometer mounting plate may account for the additional acceleration that occurred in the head calibration tests of the GM test dummies.

GM also asked the agency to set a torque specification for the accelerometer mounting plate bolt. In response to GM's request, the agency has added a torque specification of 10 ft. lbs. to the specifications set out in the maintenance manual for the test dummy.

GM said that another possible source of the difference between the measurements it obtained with its own test dummies and the measurements it made with the NHTSA test dummies could be due to differences in the type and location of the accelerometers in the test dummies. GM noted that the specifications proposed in the rule allow the use of different types of accelerometers by allowing a number of different accelerometer placements within the test dummy.

As explained below, testing done for the agency has shown that the use of different types of accelerometers within the permissible locations does not prevent the test dummy from producing accurate and repeatable results. However, to

further reduce the possibility of test differences due to accelerometer placement, the agency has more specifically defined several of the permissible accelerometer mounting locations.

Testing done for the agency at two different facilities to develop the calibration requirements used two types of accelerometers and different accelerometer locations. That testing produced no appreciable differences in test results and showed that different facilities could obtain repeatable results, when the accelerometers are properly mounted.

The agency's test experience with the adult test dummy also shows that minor differences in accelerometer mounting locations do not affect the ability of the test dummy to produce similar and repeatable results. The number of permissible accelerometer locations allowed for the adult test dummy is in some cases larger than the number permitted in the child test dummy. Yet no significant differences in test results for the adult test dummy have been encountered due to accelerometer location.

GM's own test data also indicate that use of different types of properly mounted accelerometers and different mounting locations produces only minor variations in the measurements. GM tested NHTSA's test dummy using two types of accelerometers mounted at different locations within the prescribed tolerances. The average measured acceleration in the chest impact tests varied by only 4 percent between the two types of accelerometers. It was only when GM used the improperly installed accelerometer mounting block in the head impact tests, discussed above, that GM obtained a 14 percent difference in measured accelerations within the NHTSA dummy using two types of accelerometers.

Calibration Procedures

GM also raised questions about the procedures for conducting the chest and head calibration tests. GM said that the sequence of procedures for positioning the dummy for the chest pendulum impact test was ambiguous since it called for the test dummy to be adjusted so that the area on the chest of the dummy immediately adjacent to the impact point is vertical. However, that surface of the dummy is curved and has variable radii. GM also pointed out that when the dummy is moved to the more vertical position, the area that a pendulum strikes the dummy also moves so that the portion of the test dummy's chest which is too rigid might be impacted. NHTSA has changed the dummy's

positioning procedures so that a plane tangent to the surface of the chest immediately adjacent to the designated impact area is vertical. The positioning of the pendulum is also changed to ensure that the pendulum consistently strikes the chest at the designated point on the chest.

GM also raised questions about the positioning of the pendulum for the head calibration impact tests. The proposed requirement specified that the impact point for the pendulum was to be measured relative to the top of the dummy's head. GM said that because of differences in the thickness and shape of the dummy's skin, the location of the impact point can vary. GM recommended determining the impact point relative to the head center of gravity reference pins which protrude through the test dummy's skin.

NHTSA has evaluated GM's proposed head impact positioning procedure and decided to adopt a modified version of it. A measurement made from the head center of gravity pins will be used to determine the head impact point to ensure that all test dummies will be struck in the same location during the head impact tests.

GM said that the lumbar spine calibration test was ambiguous because it did not specify either the direction in which the force was to be applied to the lumbar spine or the location on the spine which is to be used to define the direction of force application. GM also pointed out that the procedures erroneously set requirements for femur friction plungers which are not included in the 3-year-old test dummy. NHTSA has corrected the test procedures to specify the direction of force application and deleted the reference to friction plungers.

GM also criticized ambiguities in the specification for the amount of chest deflection. NHTSA has reevaluated the need for a chest deflection specification and has decided to eliminate the requirement, since the chest acceleration test should serve as an adequate calibration test of the dummy's chest.

Repeatability

Ford, GM and the Motor Vehicle Manufacturers Association (MVMA) raised questions about the ability of the 3-year-old test dummy to give repeatable results in crash testing. MVMA proposed that the agency conduct another series of tests to determine the amounts of variances in test results between the same dummy in several tests and between different dummies in the same tests.

MVMA and Ford also recommended that the additional testing also include testing of the proposed Economic Commission for Europe (ECE) test dummy to determine if it would be an objective test device. The agency has not conducted an evaluation of the ECE test dummy since there are no calibration requirements for that test dummy. Without calibration requirements, there is no means to ensure the accuracy of the measurements obtained by the test dummy and therefore it cannot be used as an objective test device.

The agency has already conducted three separate research programs to evaluate the 3-year-old test dummy as an objective test device. As explained below, those programs have shown that the test dummy is an objective device that produces repeatable test results.

During 1977-78, the agency had simultaneous research programs conducted at the University of Michigan's Highway Safety Research Institute and NHTSA's Vehicle Research and Test Center in East Liberty, Ohio to develop and evaluate the calibration performance requirements and test procedures for the 3-year-old test dummy. Four of the 3-year-old test dummies were used in the testing program. Two of the dummies were tested by one laboratory and the other two were tested by the other laboratory. Then the two sets of test dummies were exchanged by the laboratories and subjected to the same calibration tests. By setting up the research program in this manner, the agency was able to determine if the test procedures and calibration performance requirements were repeatable from test dummy to test dummy and from test laboratory to test laboratory. The test results from both research programs showed that the calibration test procedures and performance requirements produced repeatable results.

The repeatability of the test dummy was reaffirmed in further testing conducted between June 1978 and July 1979 at Calspan Corporation. In that research program, four of the 3-year-old test dummies were used with two different types of child restraints—one shield type (Chrysler Mopar) and one plastic shell with integral harness type (GM Love Seat). Each of the four test dummies was subjected to six sled tests at 30 mph in both types of child restraints. The harness type restraint was also subjected to 3 sled tests at 20 mph with the top tether strap unattached.

To determine the repeatability of the test dummies, the head and chest accelerations and the amounts of head and knee excursion experienced

by the test dummies were analyzed. That analysis showed that the amount of deviation measured by the same dummy in the different tests was small and similar in nature to the results obtained with Part 572 test dummies representing adults, which have been established as objective test devices.

In addition to examining the results obtained for the same dummy in different tests, the research program also examined the results for each of the four 3-year-old dummies in the same test. Based on previous testing of test dummies representing adults, it was determined that if the absolute deviation of the observed test results for each performance criteria, such as head acceleration, was less than six percent from the mean results, then the dummies had sufficient repeatability. In all but one of the test results, the deviation from the mean was less than six percent. The single exception involved the amount of chest acceleration measured in the test dummies in the 20 mph tests of an untethered harness-type restraint. In that instance the deviation was only 7.7 percent. The reason for the variation in that test is probably due to the increased movement of the seat because the tether strap was unattached, rather than due to any variability in the test dummy.

Costs

The agency has considered the economic and other impacts of this final rule and determined that this rule is not significant within the meaning of Executive Order 12044 and the Department of Transportation's policies and procedures for implementing that order. The agency's assessment of the benefits and economic consequences of this final rule are contained in a regulatory evaluation which has been placed in the docket. Copies of that regulatory evaluation can be obtained by writing to NHTSA's docket section at the address given in the beginning of this notice.

The cost of the infant test dummy is estimated to be approximately \$1,000. The 3-year-old test dummy should cost approximately \$4,000. The materials used in the dummies are commercially obtainable. The availability of the test dummy drawing and other specifications means that any manufacturer can produce its own test dummy and does not have to purchase the test dummy from an independent test dummy manufacturer.

Strollee, a child restraint manufacturer, and the Juvenile Products Manufacturers Association asked the agency to reconsider the calibration

requirements set for the 3-year-old dummy. They argued that the cost of calibrating the test dummy is approximately \$800 to \$1,100. Combined with the cost of the sled testing, each test of a car seat could cost approximately \$2,000-\$3,500. Such costs "would certainly discourage a manufacturer from testing frequently," Strollee said.

The calibration requirements set by this final rule are essential to ensure that the test dummy is an objective test device that will produce repeatable results in dynamic sled tests. So that the requirements would be practicable, the agency established the minimum number of calibration tests possible which would still ensure that the test dummy is properly constructed and properly instrumented. Each manufacturer, in the exercise of due care, must determine how frequently it will calibrate its test dummy and how frequently it will run tests to determine its child restraint's compliance with Standard No. 213.

In its own testing, the agency has used some test dummies in as many as 15 tests over a 2-3 week period without recalibrating them and has not found any difference in their performance. With other test dummies, the agency has found it necessary to recalibrate them after several tests. However, in its compliance testing the agency will use properly calibrated dummies.

The principal authors of this notice are Vladislav Radovich, Office of Vehicle Safety Standards, and Stephen Oesch, Office of Chief Counsel.

In consideration of the foregoing, Part 572, *Anthropomorphic Test Dummies*, of Title 49 of the Code of Federal Regulations is amended as follows:

1. A new subsection (c) is added . . . Subpart A—General, Section 572.4 Terminology (49 CFR 572.4) to read as follows:

(c) The term "unimodal", when used in Subpart C, refers to an acceleration-time curve which has only one prominent peak.

2. A new Subpart C—Three Year Old Child, is added . . .

Issued on December 20, 1979.

Joan Claybrook
Administrator

**44 F.R. 76527
December 27, 1979**

PREAMBLE TO AN AMENDMENT TO PART 572

Anthropomorphic Test Dummies (Docket No. 78-9, Notice 5; Docket No. 73-8, Notice 9)

ACTION: Final rule.

SUMMARY: This notice amends Part 572, Anthropomorphic Test Dummies, to allow the use of an alternative chemical foaming agent for molding the dummy's flesh parts. In response to a Ford petition, the notice also makes a minor technical amendment to modify one specification in the calibration procedures for the neck of the test dummy representing a 50th percentile male. The effect of the latter amendment is to simplify the calibration test.

DATES: The amendment is effective on June 16, 1980.

ADDRESSES: Petitions for reconsideration should refer to the docket numbers and be submitted to: Docket Section, Room 5108, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590. (Docket hours: 8:00 a.m. to 4:00 p.m.)

FOR FURTHER INFORMATION CONTACT:

Mr. Vladislav Radovich, Office of Vehicle Standards, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-2264)

SUPPLEMENTARY INFORMATION: This notice amends Part 572, Anthropomorphic Test Dummies, to modify the design specification for molding the test dummy's flesh parts to allow the use of an alternative chemical foaming agent, "OBSh/TBPP," to the currently specified "Nitrosan." In response to a petition from the Ford Motor Company, the agency is also making a minor technical amendment to simplify the calibration test for the neck used in the 50th percentile male test dummy. The amendment deletes the current specification and substitutes the specification used in the calibration testing of the recently issued three-year-old child test dummy (44 FR 76527,

December 27, 1979).

The agency published the proposed changes to the flesh molding and neck calibration specifications in the *Federal Register* of December 18, 1978 (43 FR 58843). Only one party, Ford Motor Co., commented on the proposed changes and Ford supported the adoption of both proposed changes.

Molding Specifications

The agency proposed the changes in the molding specification because the sole manufacturer of "Nitrosan," the currently specified chemical foaming agent, has discontinued its production due to the hazardous propensities of the compound during its manufacturing process. Based on an extensive research program to develop and test new chemical foaming agents (which was fully described in the notice of proposed rulemaking), the agency found that test dummy flesh parts made from "OBSh/TBPP" have comparable material properties to those produced with "Nitrosan" and are superior in some respects. Based on an evaluation of the research results, the agency concludes that flesh parts produced from "OBSh/TBPP" can be used for all purposes for which test dummies are required by the applicable safety standards and the dummy performance will be equivalent to the performance of dummies produced with "Nitrosan." Therefore, the agency is amending the regulation to allow the use of "OBSh/TBPP."

Drawings and specifications outlining the formulations for molding dummy flesh parts with the "OBSh/TBPP" compound are available for examination in NHTSA Docket 73-8 and Docket 78-9, Room 5108, 400 Seventh Street, S.W., Washington, D.C. 20590. Copies of these drawings may also be obtained from the Keuffel and Esser Company, 1513 North Danville Street, Arlington, Virginia 22201.

Neck Calibration Requirements

In response to a request from Ford, the agency

proposed an amendment to the pendulum impact test specification established in section 572.7(b) for the calibration of the 50th percentile male test dummy. The amendment would have replaced the current specification with the specification for calibration testing established for the 3-year old child test dummy.

The pendulum neck test found in Subpart B of the standard for the 50th percentile male dummy is intended to measure the bending properties of the dummy's neck. The current test specifies that, during the neck bending procedure, the pendulum shall not reverse direction until "T = 123 ms." This means that from the time the pendulum contacts the arresting material which it must strike, the pendulum cannot reverse direction for 123 milliseconds. The original intent of this requirement was to negate the effects of arresting material having rebound characteristics that could force the pendulum to reverse its motion before the bending properties of the neck could be measured. Ford requested a change in this specification because in certain instances the use of a special apparatus may be required to hold the pendulum arm for at least 123 milliseconds after the pendulum has impacted the arresting material.

Research by NHTSA and the industry has shown that when appropriate crushable materials are used in pendulum impact tests, the pendulum does not reverse its motion until the neck has straightened out and the head's center of gravity has returned to its original zero-time position relative to the pendulum. At that time, all measurements of the neck bending characteristics are completed and the pendulum's motion thereafter is inconsequential. In light of this research, the recent addition of Subpart C to Part 572, specifying requirements for the 3-year-old child dummy, modified the language concerning reversal of the pendulum arm during the neck impact test. Section 572.17 of that subpart specifies that "the pendulum shall not reverse direction until the head's center of gravity returns to the original zero time position relative to the pendulum arm." Under this requirement, a dummy user could only use an arresting material for the impact test whose rebound characteristics would not overcome the pendulum's inertia before the head and neck returned to the zero time position.

Since the specification in Subpart C of Part 572 represents a simplification of the pendulum

impact test specified in the current Subpart B, without any degradation of performance characteristics, the agency is amending section 572.7(b) of Subpart B to read as section 572.17(b) of Subpart C.

Costs

The agency has considered the economic and other impacts of this final rule and determined that this rule is not significant within the meaning of Executive Order 12044 and the Department of Transportation's policies and procedures for implementing that order. Based on that assessment, the agency has concluded also that the economic and other consequences of this proposal are so minimal that a regulatory evaluation is not necessary. The impact is minimal since there is no estimated increase in the cost of the test dummies due to the change in the foaming agent and neck calibration specification. In addition, the amendments would have no adverse environmental effects.

The engineer and lawyer primarily responsible for this notice are Vladislav Radovich and Stephen Oesch, respectively.

In consideration of the foregoing, Part 572, Anthropomorphic Test Dummies, of Title 49 of the Code of Federal Regulations is amended as follows:

1. Technical drawing ATD-6070 incorporated by reference in Section 572.15 of Subpart C—3-Year-Old-Child is amended to add the formulation for "OBSh/TBPP" foaming compound.

2. Technical drawing ATD-7151 incorporated by reference in Section 572.5 of Subpart B—50th Percentile Male is amended to add the formulation for "OBSh/TBPP" foaming compound.

3. The last sentence of Section 572.7(b) of Subpart B—50th Percentile Male is amended to read: "The pendulum shall not reverse direction until the head's center of gravity returns to the original zero time position relative to the pendulum arm."

Issued on June 9, 1980.

Joan Claybrook
Administrator

45 FR 40595
June 16, 1980

PREAMBLE TO AN AMENDMENT TO PART 572

Anthropomorphic Test Dummies Representing 6-month-old and 3-year-old Children (Docket No. 78-09; Notice 6)

ACTION: Response to petition for reconsideration.

SUMMARY: This notice grants in part and denies in part a General Motors (GM) petition for reconsideration of the 3-year-old test dummy requirements set in Part 572, Anthropomorphic Test Dummies. GM said it could not calibrate its test dummies because of resonances in the dummies, which prevent accurate acceleration measurements. NHTSA found that GM's calibration problems are due to its failure to comply with all of the design specifications set for the dummy and its use of single axis rather than triaxial accelerometers. In another notice in today's *Federal Register* the agency is proposing to require the use of triaxial accelerometers. This notice also corrects typographical errors in the final rule.

DATES: The amendments are effective on June 26, 1980.

FOR FURTHER INFORMATION CONTACT:

Mr. Vladislav Radovich, Office of Vehicle
Safety Standards, National Highway Traffic
Safety Administration, 400 Seventh Street,
S.W., Washington, D.C. 20590 (202-426-2264)

SUPPLEMENTARY INFORMATION: On December 27, 1979, NHTSA published in the *Federal Register* a final rule amending Part 572, Anthropomorphic Test Dummies, to establish specifications and performance requirements for two test dummies, one representing a 6-month-old child and the other representing a 3-year-old child (44 FR 76527). The dummy is used in testing child restraint systems in accordance with Federal Motor Vehicle Safety Standard No. 213, Child Restraint Systems. General Motors (GM) timely filed a petition for reconsideration concerning the specifications and performance requirements set

for the test dummy representing a 3-year-old child. No other petitions were filed and GM raised no issues concerning the specifications set for the test dummy representing a 6-month-old child.

In its petition, GM again argued that the 3-year-old test dummy is not an objective test device for acceleration measurement because of resonances in the test dummy. GM requested the agency not to use the dummy as an acceleration measurement device until the resonances are eliminated.

GM also asked the agency to revise its accelerometer specifications to require the axes of triaxial accelerometers to intersect at a single point. GM said the change would reduce possible variability between different types of accelerometers. In addition, GM requested a further change in the lumbar spine test procedures to permit the use of either a pull or a push force during the spine calibration tests.

GM also raised questions about the possible use of different signal filtering techniques at different test laboratories. GM said that the use of different filters might account for differences between its testing and testing done for the agency.

NHTSA has evaluated GM's comments and the agency's responses to GM's petition are discussed below. All requests that are not specifically granted below are denied.

Signal Filtering

GM argued that one of the possible reasons for the differences between the test dummy head calibration test results at GM and other laboratories was the use of incorrect filters (devices used in the electronic processing of the acceleration measurements) by some laboratories. Part 572 requires the acceleration measurements to be filtered according to the Society of Automotive Engineers Recommended Practice J211a. Both Calspan Corporation and the agency's Vehicle Research and Test Center (VRTC), which did

testing for NHTSA, used the required filter and instrumented their test dummies with triaxial accelerometers. The test results at VRTC were all within the limits set by the agency.

The Calspan test results originally reported to the agency were also within the limits. In rechecking its data, however, Calspan determined that it had made an error in calculating the peak resultant accelerations in the head calibration test. The corrected data showed that in one of the four head calibration tests the peak resultant acceleration was 116 g's, which exceeds the 115 g limit set in Part 572. To evaluate possible variability in the processing of the data by different laboratories, the agency also had HSRI and VRTC process the Calspan data. For the tests which exceeded the calibration limit, there was little variability between the different laboratories, with HSRI measuring 118 g's and VRTC measuring 117.4 g's.

The dummies Calspan used in the calibration testing were subsequently used in sled tests of child restraint systems. In the sled tests, the dummies provided consistent and repeatable acceleration measurements. Since dummies that experience 118 g's in the head calibration test can provide consistent and repeatable acceleration measurements, the agency, in a separate notice appearing in today's *Federal Register*, is proposing to increase the head resultant acceleration calibration limit from 115 to 118 g's.

NHTSA has found that the University of Michigan's Highway Safety Research Institute (HSRI), which instrumented its dummies with single axis accelerometers, did not use the filter required by Part 572, but instead used a filter that deviates from the required filter. To determine whether the use of the HSRI filter made a difference in the calibration tests conducted by that laboratory, the agency had HSRI process the accelerations recorded during its head calibration tests with the correct filter. Using the correct filter, HSRI found that in five of the eighteen head calibration tests the peak resultant acceleration exceeded the limits set in Part 572. In those five tests, the peak resultant acceleration ranged from 115.9 to 119.1 g's.

The peak resultant accelerations and the shape of the acceleration pulses in the HSRI tests that exceeded the calibration limit were smaller than and not the same shape as the measurements made by GM in its tests, which also used test

dummies instrumented with single axis accelerometers. In the two sets of data submitted by GM to the docket, the peak resultant accelerations ranged from 119 to 130 g's. In addition, the shape of the GM head acceleration pulse was different than the pulses measured in all the testing done for the agency. In the GM acceleration pulse, there is a brief secondary peak after initial peak is reached. Based on the agency's testing of adult test dummies, such secondary peaks are usually indications of accelerometer vibration resulting from improper installation.

The differences between the GM testing and the testing done for the agency is not attributable to the use of different filters. When all the test data is filtered as specified in the standard, the peak resultant accelerations measured by GM are still greater than those obtained at the other three laboratories. As explained below, use of triaxial accelerometers, rather than the single axis accelerometers used by GM and HSRI, will provide repeatable, complying results in the head calibration test.

Instrumentation

Part 572 allows the use of two different types of accelerometers (single axis and triaxial) in the test dummy and sets different axis intersection requirements for each type of accelerometer. GM asked the agency to apply the axis intersection requirements set for single axis accelerometers to triaxial accelerometers. It said such a requirement would reduce the variability in test measurements resulting from use of different types of accelerometers.

The agency's testing has demonstrated that variability can be sufficiently controlled by use of the existing specification with a triaxial accelerometer. Testing done by GM has also shown that the test dummy can be properly calibrated with triaxial accelerometers. When GM tested one of the agency's test dummies with GM's accelerometer mounting place and single axis accelerometers, the peak lateral accelerations measured in the test dummy's head exceeded the limits currently set in the regulation. Yet when GM tested the same test dummy equipped with triaxial accelerometers placed on the mounting plate required by the design specifications, the test dummy easily met the calibration requirements. Therefore, rather than adopt GM's proposal, the

agency is proposing, elsewhere in today's *Federal Register*, to require the use of only triaxial accelerometers.

Resonances

GM said that "the consistent lack of correlation between dummy tests at General Motors and at other laboratories" was attributable to resonances in the test dummy. It said the dummy could not be used as an objective test device until the resonances were eliminated. As explained previously, the variability between different test laboratories can be controlled by the use of triaxial accelerometers.

One reason for the "resonances" in the GM test results may be GM's failure to use dummies that fully comply with the agency's design specifications. The agency's review of some of the blueprints used in the construction of the GM test dummies revealed that GM did not use the accelerometer mounting plate required by the NHTSA design specifications. The mounting plate used by GM was smaller and presumably lighter than the plate specified by the agency. Use of a smaller and lighter plate may have also contributed to the higher acceleration readings obtained by GM.

Thus, the agency denies GM's request not to use the dummy for acceleration measurement and concludes that the 3-year-old test dummy instrumented with triaxial accelerometers is an objective test device for measuring accelerations in child restraints.

Spine Calibration

The calibration requirements for the lumbar spine of the test dummy specify the amount of flexion the spine must experience when force is applied to it. The calibration procedures specify that the applied force is to be applied as a pull force. GM requested the agency to permit the use of a "push" force saying that it "is more convenient to apply in some test set-ups."

When the agency developed the spine calibration tests, both pull and push forces were used to apply force to the spine. However, the testing done by the Highway Safety Research Institute (HSRI) found that use of a push force "proved to be awkward and inconsistent." HSRI also found that use of a pull force was simpler procedure and provided consistent data. Based on the HSRI

testing, the agency has decided to deny GM's request since the use of a pull force provides a simple, repeatable method to measure compliance.

Corrections

In the final rule issued on December 12, 1979, NHTSA amended the instrumentation requirements for the chest to more specifically define several of the accelerometers mounting locations. The revised specifications inadvertently reversed two of the axis mounting locations in the chest. The specifications have been amended in this notice to correct that error.

The test procedure for conducting the head impact test set forth in the final rule contained a typographical error. The tolerance for positioning the test probe was listed as ± 1.1 inches. The regulation has been amended in this notice to specify the correct tolerance of ± 0.1 inches.

The performance requirement for the neck calibration test was incorrectly listed as 84 degrees ± 18 degrees rather than the correct figure of 84 degrees ± 8 degrees. The necessary corrections have been made in this notice to the regulation.

The principal authors of this notice are Vladislav Radovich, Office of Vehicle Safety Standards, and Stephen Oesch, Office of Chief Counsel.

In consideration of the foregoing, Subpart C—3-Year-Old Child of Part 572, Anthropomorphic Test Dummies, of Title 49 of the Code of Federal Regulations, is amended as follows:

1. Section §572.1(c)(2) is amended to read as follows:

(2) Adjust the test probe so that its longitudinal centerline is at the forehead at the point of orthogonal intersection of the head midsagittal plane and the transverse plane which is perpendicular to the "Z" axis of the head (longitudinal centerline of the skull anchor) and is located 0.6 ± 0.1 inches above the centers of the head center of gravity reference pins and coincides within 2 degrees with the line made by the intersection of horizontal and midsagittal planes passing through this point.

2. The first sentence of section §572.17(b) is amended to read as follows:

(b) When the head-neck assembly is tested in accordance with paragraph (c) of this section, the head shall rotate in reference to the pendulum's longitudinal centerline a total of 84 degrees ± 8 degrees about its center of gravity, rotating to the

extent specified in the following table at each indicated point in time, measured from impact, with the chordal displacement measured at its center of gravity.

3. Section §572.21(c) is amended to read as follows:

(c) Accelerometers are mounted in the thorax on the mounting plate attached to the vertical transverse bulkhead shown in the drawing subreferenced under assembly No. SA 103C 030 in drawing SA 103C 001 so that their sensitive axes are orthogonal and their seismic masses are positioned relative to the axial intersection point located in the midsagittal plane 3 inches above the top surface of the lumbar spine and 0.3 inches dorsal to the accelerometer mounting plate surface. Except in the case of triaxial accelerometers, the sensitive axes shall intersect at the axial intersection point. One accelerometer is aligned with its sensitive axis parallel to the vertical bulkhead and midsagittal planes, and with its seismic mass center at any distance up to 0.2 inches to the left, 0.1 inches inferior and 0.2 inches ventral of the axial intersection point. Another accelerometer is aligned with its sensitive axis in the transverse

horizontal plane and perpendicular to the midsagittal plane and with its seismic mass center at any distance up to 0.2 inches to the right, 0.1 inches inferior and 0.2 inches ventral to the axial intersection point. A third accelerometer is aligned with its sensitive axis parallel to the midsagittal and transverse horizontal planes and with its seismic mass center at any distance up to 0.2 inches superior, 0.5 inches to the right and 0.1 inches ventral to the axial intersection point. In the case of a triaxial accelerometer, its axes are aligned in the same way that the axes of three separate accelerometers are aligned.

Issued on June 17, 1980.

Joan Claybrook
Administrator

45 FR 43352
June 17, 1980

PREAMBLE TO AN AMENDMENT TO PART 572

Anthropomorphic Test Dummies (Docket No. 78-09; Notice 8)

ACTION: Response to petitions for reconsideration, final rule and correction.

SUMMARY: This notice amends Subpart C of Part 572, Anthropomorphic Test Dummies, to specify the use of a triaxial accelerometer in the test dummy representing a 3-year-old child. The use of a triaxial accelerometer will eliminate calibration problems associated with single axis accelerometers. The notice also denies petitions filed by Ford Motor Company and General Motors Corporation seeking reconsideration of the agency's June 26, 1980 notice responding to a prior General Motors Corporation petition for reconsideration. Finally, the notice corrects a typographical error in the agency's June 26, 1980 final rule.

DATES: The amendments are effective on December 15, 1980.

ADDRESSES: Petitions for reconsideration should refer to the docket number and be submitted to: Docket Section, Room 5108, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Mr. Vladislav Radovich, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590
(202-426-2264)

SUPPLEMENTARY INFORMATION: This notice amends Subpart C of Part 572, Anthropomorphic Test Dummies, to change several of the requirements for the test dummy representing a 3-year-old child. The test dummy is used in testing child restraint systems in accordance with Federal

Motor Vehicle Safety Standard No. 213, Child Restraint Systems.

The notice amends Subpart C of Part 572 to specify the use of triaxial accelerometers, instead of single axis accelerometers, in the head and chest of the test dummy. In addition the notice increases the upper limit for permissible resultant acceleration in the head calibration test from 115 g's to 118 g's. The agency published a notice proposing these changes in the *Federal Register* for June 26, 1980 (45 FR 43355). Only two parties, Ford Motor Company (Ford) and General Motors Corporation (GM), submitted comments on the proposal. The final rule is based on the data submitted in those comments, data obtained in the agency's testing and data obtained from other pertinent documents. Significant comments submitted to the docket are addressed below.

This notice also denies petitions filed by Ford and GM seeking reconsideration of the agency's June 26, 1980 notice (45 FR 43352) that granted in part and denied in part a prior GM petition for reconsideration.

Finally, this notice corrects a typographical error in an amendment made in the agency's June 26, 1980 notice (45 FR 43352) responding to a prior GM petition for reconsideration.

Resonances

Ford and GM both agree with the agency that the test dummy representing a 3-year-old child is an objective test device for measuring the amount of head and knee excursion that occurs in child restraint system testing using the test dummy. The fundamental disagreement stated in the Ford and GM comments and petitions for reconsideration is whether the test dummy is an objective test device for measuring accelerations in the dummy's head and chest during child restraint testing. GM argues that the test dummy is not an objective

device because of the presence of resonances in the head and chest of the test dummy. Ford says that the test dummy "may be a suitable measuring device, when there is no head impact (such as in a shoulder harness type of child restraint)" during child restraint testing. It, however, argues that if there is a head impact in the child restraint testing, then the test dummy's head will resonate.

Ford and GM both argue that the resonances can reinforce or attenuate the measurement of impact forces on the test dummy. Thus, if the test dummy does resonate, the acceleration measured in the test dummy may not represent the actual forces experienced by the test dummy.

Ford argues that the source of the resonance is an oscillation of the urethane skull of the test dummy. Ford included with its petition and comments on the June 26, 1980 proposal the results of several tests in which it struck the head of the test dummy with a rubber mallet. Ford said that regardless of the direction of the impact, the head resonated with a frequency of approximately 200 Hertz (Hz) when it was struck.

The agency has reviewed the Ford and other test data and concluded that the test dummy is an objective test device that can be used for measuring accelerations. As explained below, the agency's conclusion is based on an analysis of the structure of the test dummy's head and chest and the relationship between that structure and the impact response of the test dummy.

Many physical structures, such as the test dummy's head, have a natural or resonating frequency at which they will vibrate when they are driven by a force of the same frequency. When resonance occurs, small variations in the applied force can produce large variations in the measured acceleration, thus preventing accurate measurement of the acceleration. The resonance, however, will not occur if the driving force is of a frequency that is below the natural or resonating frequency of the object being struck.

Analysis of the test dummy shows that the natural or resonating frequency of the head is approximately 128 Hz, while the natural frequency of the accelerometer attachment in the test dummy's head is approximately 255 Hz. The natural resonating frequencies of the test dummy's chest and chest accelerometer attachment are approximately 85 Hz and 185 Hz.

Impacts with hard and unyielding objects, such

as the unpadded portion of a car's instrument panel, can create high frequencies, generally up to 1,000 Hz. Impacts with soft and yielding surfaces, such as a padded child restraint, create low frequencies, generally less than 50 Hz.

The test used in Standard No. 213 to evaluate child restraints does not include impacts with hard and unyielding surfaces. In Standard No. 213 testing, the child restraint is placed on a vehicle seat and attached by a lap belt. There is no portion of a vehicle's interior, such as an instrument panel, placed in front of or to the side of the vehicle seat. Thus, during the testing, the dummy will contact the belts or padded surfaces of the child restraint. Since the belts and padded surfaces are yielding and energy-absorbing, contact with them will involve impacts where the frequencies are well below the natural or resonating frequency of the test dummy's head and chest.

Ford raised the issue of whether contact between the head and arms of the dummy during the testing might produce frequencies that will cause the test dummy's head to resonate. Ford said that it had experienced dummy head and arm contact in some of its tests and resonance occurred.

The agency has conducted more than 150 tests of child restraint systems. There have only been 2 tests in which the head of the test dummy struck the toes and resonances occurred. The head-limb contact occurred in those tests because of massive structural failures in the child restraint system.

Although resonances did occur when the head struck the toes, the validity of the acceleration measurement in those tests is irrelevant for determining if the child restraint complied with Standard No. 213, Child Restraint Systems. The structural failure is, by itself, a violation of the standard. The agency had not found head and limb contact affecting acceleration measurements in any child restraint that maintained its structural integrity during the testing.

In the past several years, the agency has conducted 10 tests of the Ford TOT GUARD. In one of those tests, the arm briefly touched the head, but there was no effect on the acceleration measurement. The dummy in those tests was positioned in accordance with the test procedure set out in Standard No. 213. Since the test procedure permits the limbs to be positioned so that they will not inhibit the movement of the head or torso the agency looked at the effect of positioning the dum-

my's arm in different locations on the shield or the side of the TOT GUARD. None of the different arm positions resulted in head to arm contact affecting acceleration measurement.

Triaxial Accelerometers

Part 572 currently allows the use of either triaxial accelerometers or single axis accelerometers to measure accelerations in the head and chest of the 3-year-old child test dummy. The June 26, 1980 notice (45 FR 43355) proposed specifying the use of only triaxial accelerometers in the test dummy to eliminate calibration problems caused by single axis accelerometers. The agency proposed only using triaxial accelerometers after GM was unable to calibrate its test dummies with single axis accelerometers. In GM's head calibration tests, the peak resultant acceleration exceeded the upper limit set by the regulation.

GM agreed that use of a triaxial accelerometer "may reduce the possibility of exceeding the peak acceleration in the dummy calibration test." It, however, argued that the use of triaxial accelerometers will not solve the problem of resonance. As previously explained, the types of impacts experienced in child restraint testing will not produce resonances. The purpose of requiring the use of triaxial accelerometers is to enable manufacturers to calibrate consistently their test dummies within the acceleration limits set in the regulation.

Ford argued that single axis accelerometers are easier to work with, more reliable and more easily repaired than triaxial accelerometers. The agency is not aware of any data, and Ford supplied none, indicating that triaxial accelerometers are less reliable than single axis accelerometers. Contrary to Ford's assertion, a triaxial accelerometer should be easier to use. The axes and seismic mass center of the triaxial accelerometer (Endevco model 7267C-750) currently used in dummy testing are permanently fixed in a mounting block. With single axis accelerometers, three separate accelerometers must be positioned by each user on a mounting block in order to instrument the dummy. Thus the possibility of variation in mounting location between different users is increased by the use of single axis accelerometers.

Single axis accelerometers are more readily repairable than triaxial accelerometers. The agency, however, has used triaxial accelerometers in

numerous dummy tests for several years and has found that their repair experience is comparable to single axis accelerometers.

Based on all these considerations, the agency has decided to adopt the triaxial accelerometer requirement as proposed.

Calibration Limit

To accommodate minor variation in test measurements between different test laboratories, the agency's June 26, 1980 notice (45 FR 43355) proposed to slightly increase the permissible resultant acceleration limit for the head calibration test from 115 g's to 118 g's. Neither Ford nor GM opposed this change, so the agency is adopting it as proposed. Although the agency is expanding the upper limit of the calibration range, experience with the Part 572 adult test dummy has shown that manufacturers will develop production techniques to produce test dummies that have acceleration responses that fall within the middle of the specified calibration range.

Correction

The final rule established by the agency's June 26, 1980 notice (45 FR 43352) amended the head calibration head test procedures. The notice inadvertently made the amendment to section 572.1(c)(2) of Part 572 instead of to section 572.16(c)(2). This notice corrects that typographical error and makes the amendment to section 572.16(c)(2).

Costs

The agency has considered the economic and other impacts of this final rule and determined that this rule is not significant within the meaning of Executive Order 12221 and the Department of Transportation's policies and procedures implementing that order. Based on that assessment, the agency has concluded that the economic and other consequences of this rule are so minimal that a regulatory evaluation is not necessary. The impact is minimal since the primary effect of this rule is to bind the agency to using one of the two types of accelerometers formerly permitted by the regulation. The economic impact on manufacturers choosing to purchase triaxial accelerometers needed to instrument the dummy is approximately \$2,500.

The agency finds, for good cause shown, that it is in the public interest that the amendments made

by this notice have an immediate effective date. The immediate effective date is needed since the test dummy will be used in conducting compliance tests for Standard No. 213, Child Restraint Systems, which goes into effect on January 1, 1981.

The engineer and lawyer primarily responsible for this notice are Vladislav Radovich and Stephen Oesch, respectively.

In consideration of the foregoing, Subpart C of Part 572, Anthropomorphic Test Dummies, of Title 49 of the Code of Federal Regulations is revised to read as follows:

1. The first sentence of section 572.16(b) is revised to read as follows:

(b) When the head is impacted in accordance with paragraph (c) of this section by a test probe conforming to §572.21(a) at 7 fps., the peak resultant acceleration measured at the location of the accelerometer mounted in the headform in accordance with §572.21(b) shall be not less than 95g and not more than 118g.

2. Section 572.21(b) is revised to read as follows:

(b) A triaxial accelerometer is mounted in the head on the mounting block (A/310) located on the horizontal transverse bulkhead as shown in the drawings subreferenced under assembly SA 103C 010 so that its seismic mass centers are positioned as specified in this paragraph relative to the head accelerometer reference point located at the intersection of a line connecting the longitudinal centerlines of the transfer pins in the sides of the dummy head with the midsagittal plane of the dummy head. The triaxial accelerometer is aligned with one sensitive axis parallel to the vertical bulkhead and midsagittal plane and its seismic mass center is located 0.2 inches dorsal to and 0.1 inches inferior to the head accelerometer reference point. Another sensitive axis of the triaxial accelerometer is aligned with the horizontal plane and is perpendicular to the midsagittal plane and its seismic mass center is located 0.1 inch inferior to, 0.4 inches to the right of and 0.9 inch dorsal to the head accelerometer reference point. The third sensitive axis of the triaxial accelerometer is aligned so that it is parallel to the midsagittal and horizontal planes and its seismic mass center is located 0.1 inches inferior to, 0.6 inches dorsal to and 0.4 inches to the right of the head accelerometer reference point. All seismic mass centers shall be positioned within ± 0.05 inches of the specified locations.

3. Section 572.21(c) is revised to read as follows:

(c) A triaxial accelerometer is mounted in the thorax on the mounting plate attached to the vertical transverse bulkhead shown in the drawing subreferenced under assembly No. SA 103C 030 in drawing SA 103C 001 so that its seismic mass centers are positioned as specified in this paragraph relative to the thorax accelerometer reference point located in the midsagittal plane 3 inches above the top surface of the lumbar spine and 0.3 inches dorsal to the accelerometer mounting plate surface. The triaxial accelerometer is aligned so that one sensitive axis is parallel to the vertical bulkhead and midsagittal planes and its seismic mass center is located 0.2 inches to the left of, 0.1 inches inferior to and 0.2 inches ventral to the thorax accelerometer reference point. Another sensitive axis of the triaxial accelerometer is aligned so that it is in the horizontal transverse plane and perpendicular to the midsagittal plane and its seismic mass center is located 0.2 inches to the right of, 0.1 inches inferior to and 0.2 inches ventral to the thorax accelerometer reference point. The third sensitive axis of the triaxial accelerometer is aligned so that it is parallel to the midsagittal and horizontal planes and its seismic mass center is located 0.2 inches superior to, 0.5 inches to the right of and 0.1 inches ventral to the thorax accelerometer reference point. All seismic mass centers shall be positioned within ± 0.05 inches of the specified locations.

4. The document amending Subpart C—Three-Year-Old Child of Part 572, Anthropomorphic Test Dummies, of Title 49 of the Code of Federal Regulations published in the *Federal Register* of June 26, 1980 as 45 FR 43352 is corrected by changing the reference to "Section 571.1(c)(2)" made in the first amendment to the regulation set out on page 43353 to read "572.16(c)(2)."

Issued on December 8, 1980.

Joan Claybrook
Administrator

45 FR 82265
December 15, 1980

PREAMBLE TO AN AMENDMENT TO PART 572

Anthropomorphic Test Dummies [Docket No. 85-05; Notice 1]

ACTION: Final rule.

SUMMARY: This document amends regulations concerning the National Highway Traffic Safety Administration's specifications for anthropomorphic test dummies by revising sections that state where copies of drawings may be obtained.

EFFECTIVE DATE: June 19, 1985.

SUPPLEMENTARY INFORMATION: The purpose of this notice is to amend Part 572 of Chapter V of Title 49, Code of Federal Regulations by revising §§ 572.5(a), 572.15(a)(1), and 572.25(a), which state where copies of drawings and a construction manual describing the materials and the procedures involved in the manufacturing of anthropomorphic dummies may be obtained. The amendment changes the supply source for the drawings and manual from Keuffel and Esser Company to Rowley-Scher Reprographics, Incorporated. This revision is required because of the sale of the Keuffel and Esser Company reproduction facilities to Rowley-Scher Reprographics, Incorporated.

The amendment to Part 572 as set forth below is technical in nature and does not alter existing obligations. This notice simply provides the correct address for obtaining copies of drawings and the construction manuals. The National Highway Traffic Safety Administration therefore finds for good cause that this amendment may be made effective without notice and opportunity for comment, may be made effective within 30 days after publication in the *Federal Register*, and is not subject to the requirements of Executive Order 12291.

In consideration of the foregoing, 49 CFR Part 572 is amended as follows:

1. In § 572.5, paragraph (a) is revised to read as follows: § 572.5 General description.

(a) The dummy consists of the component assemblies specified in Figure 1, which are described in their entirety by means of approximately 250 drawings and specifications that are grouped by component assemblies under the following nine headings:

SA 150 M070—Right arm assembly
SA 150 M071—Left arm assembly
SA 150 M050—Lumbar spine assembly
SA 150 M060—Pelvis and abdomen assembly
SA 150 M080—Right leg assembly
SA 150 M081—Left leg assembly
SA 150 M010—Head assembly
SA 150 M020—Neck assembly
SA 150 M030—Shoulder-thorax assembly

The drawings and specifications are incorporated in this Part by reference to the nine headings, and are available for examination in Docket 73-8, Room 5109, 400 Seventh Street, S.W., Washington, D.C., 20590. Copies may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, N.W., Washington, D.C., 20005, attention Mr. Allan Goldberg and Mr. Mark Krynski ((202) 628-6667). The drawings and specifications are subject to changes, but any change will be accomplished by appropriate administrative procedures, will be announced by publication in the *Federal Register*, and will be available for examination and copying as indicated in this paragraph. The drawings and specifications are also on file in the reference library of the *Federal Register*, National Archives and Records Services, General Services Administration, Washington, D.C.

* * * * *

2. In § 572.15, paragraph (a) is revised to read as follows: § 572.15 General description.

(a) (1) The dummy consists of the component assemblies specified in drawing SA 103C 001, which are described in their entirety by means of approximately 122 drawings and specifications that are grouped by component assemblies under the following thirteen headings:

SA 103C 010 Head Assembly
SA 103C 020 Neck Assembly
SA 103C 030 Torso Assembly
SA 103C 041 Upper Arm Assembly Left
SA 103C 042 Upper Arm Assembly Right
SA 103C 051 Forearm Hand Assembly Left
SA 103C 052 Forearm Hand Assembly Right
SA 103C 061 Upper Leg Assembly Left
SA 103C 062 Upper Leg Assembly Right
SA 103C 071 Lower Leg Assembly Left
SA 103C 072 Lower Leg Assembly Right
SA 103C 081 Foot Assembly Left
SA 103C 082 Foot Assembly Right

The drawings and specifications are incorporated in this Part by reference to the thirteen headings and are available for examination in Docket 78-09, Rm 5109, 400 Seventh Street, S.W., Washington, D.C., 20590. Copies may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, N.W., Washington, D.C., 20005, attention Mr. Allan Goldberg and Mr. Mark Krynski ((202) 628-6667).

* * * * *

(3) An Operation and Maintenance Manual (dated May 28, 1976, Contract No. DOT-HS-6-01294) with instructions for the use and maintenance of the test dummies is incorporated in this Part by reference. Copies of the manual can be obtained from Rowley-Scher Reprographics, Inc. All provisions of this manual are valid unless modified by this regulation. This document is available for examination in Docket 78-09.

* * * * *

3. In § 572.25, paragraph (a) revised to read as follows: § 572.25 General description.

(a) The infant dummy is specified in its entirety by means of 5 drawings (No. SA 100I 001) and a construction manual which describe in detail the materials and the procedures involved in the manufacturing of this dummy. The drawings and the manual are incorporated in this Part by reference and are available for examination in Docket 78-09, Room 5109, 400 Seventh Street, S.W., Washington, D.C., 20590. Copies may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, N.W., Washington, D.C., 20005, attention Mr. Allan Goldberg and Mr. Mark Krynski ((202) 628-6667). The drawings and the manual are subject to changes, but any change will be accomplished by appropriate administrative procedures, will be announced by publication in the *Federal Register*, and will be available for examination and copying as indicated in this paragraph. The drawings and manual are also on file in the reference library of the *Federal Register*, National Archives and Records Services, General Services Administration, Washington, D.C.

Issued on April 17, 1985

Diane K. Steed
Administrator

50 F.R. 25422
June 19, 1985

PREAMBLE TO AN AMENDMENT TO PART 572

Anthropomorphic Test Dummies

(Docket No. 74-14; Notice 45)

ACTION: Final Rule.

SUMMARY: This notice adopts the Hybrid III test dummy as an alternative to the Part 572 test dummy in testing done in accordance with Standard No. 208, Occupant Crash Protection. The notice sets forth the specifications, instrumentation, calibration test procedures, and calibration performance criteria for the Hybrid III test dummy. The notice also amends Standard No. 208 so that effective October 23, 1986, manufacturers have the option of using either the existing Part 572 test dummy or the Hybrid III test dummy until August 31, 1991. As of September 1, 1991, the Hybrid III will replace the Part 572 test dummy and be used as the exclusive means of determining a vehicle's conformance with the performance requirements of Standard No. 208.

The notice also establishes a new performance criterion for the chest of the Hybrid III test dummy which will limit chest deflection. The new chest deflection limit applies only to the Hybrid III since only that test dummy has the capability to measure chest deflection.

These amendments enhance vehicle safety by permitting the use of a more advanced test dummy which is more human-like in response than the current test dummy. In addition, the Hybrid III test dummy is capable of making many additional sophisticated measurements of the potential for human injury in a frontal crash.

DATES: The notice adds a new Subpart E to Part 572 effective on October 23, 1986.

This notice also amends Standard No. 208 so that effective October 23, 1986, manufacturers have the option of using either the existing Part 572 test dummy or the Hybrid III test dummy until August 31, 1991. As of September 1, 1991, the Hybrid III will replace the Part 572 test dummy and be used as the exclusive means of determining a vehicle's conformance with the performance requirements of Standard No. 208. The incorporation by reference

of certain publications listed in the regulation is approved by the Director of the Federal Register as of October 23, 1986.

SUPPLEMENTARY INFORMATION: In December 1983, General Motors (GM) petitioned the agency to amend Part 572, *Anthropomorphic Test Dummies*, to adopt specifications for the Hybrid III test dummy. GM also petitioned for an amendment of Standard No. 208, *Occupant Crash Protection*, to allow the use of the Hybrid III as an alternative test device for compliance testing. The agency granted GM's petition on July 20, 1984. The agency subsequently received a petition from the Center for Auto Safety to propose making Standard No. 208's existing injury criteria more stringent for the Hybrid III and to establish new injury criteria so as to take advantage of the Hybrid III's superior measurement capability. The agency granted the Center's petition on September 17, 1984. On April 12, 1985 (50 FR 14602), NHTSA proposed amendments to Part 572 and Standard No. 208 that were responsive to the petitioners and which, in the agency's judgment, would enhance motor vehicle safety. Twenty-eight individuals and companies submitted comments on the proposed requirements. This notice presents the agency's analysis of the issues raised by the commenters. The agency has decided to adopt the use of the Hybrid III test dummy and some of the proposed injury criteria. The agency has also decided to issue another notice on the remaining injury criteria to gain additional information about the potential effects of adopting those criteria.

This notice first discusses the technical specifications for the Hybrid III, its calibration requirements, its equivalence with the existing Part 572 test dummy, and the applicable injury criteria. Finally, it discusses the test procedure used to position the dummy for Standard No. 208 compliance testing and the economic and other effects of this rule.

Test Dummy Drawings and Specifications

Test dummies are used as human surrogates for evaluation of the severity of injuries in vehicle crashes. To serve as an adequate surrogate, a test dummy must be capable of simulating human impact responses. To serve as an objective test device, the test dummy must be adequately defined through technical drawings and performance specifications to ensure uniformity in construction, impact response, and measurement of injury in identical crash conditions.

Virtually all of the commenters, with the exception of GM, said that they have not had sufficient experience with the Hybrid III to offer comments on the validity of the technical specifications for the test dummy. Since the issuance of the notice, GM has provided additional technical drawings and a Society of Automotive Engineers-developed user's manual to further define the Hybrid III. These new drawings do not alter the basic nature of the test dummy, but instead provide additional information which will enable users to make sure that they have a correctly designed and correctly assembled test dummy. The user's manual provides information on the inspection, assembly, disassembly, and use of the test dummy. Having the user's manual available will assist builders and users of the Hybrid III in producing and using the test dummy. GM also provided information to correct the misnumbering of several technical drawings referenced in the notice.

In addition, the agency has reviewed the proposed drawings and specifications. While NHTSA believes the proposed drawings are adequate for producing the test dummy, the agency has identified and obtained additional information which should make production and use of the test dummy even more accurate. For example, the agency has obtained information on the range of motions for each moving body part of the test dummy. Finally, to promote the ease of assembly, NHTSA has made arrangements with GM to ensure that the molds and patterns for the test dummy are available to all interested parties. Access to the molds will assist other potential builders and users of the Hybrid III since it is difficult to specify all of the details of the various body contours solely by technical drawings.

The agency has adopted the new drawings and user manual in this rule and has made the necessary corrections to the old drawings. The agency believes that the available drawings and technical specifications are more than sufficient for producing, assembling, and using the Hybrid III test dummy.

Commercial Availability of the Hybrid III

A number of commenters raised questions about the commercial availability of the Hybrid III test dummy, noting problems they have experienced in obtaining calibrated test dummies and the instrumentation for the neck and lower leg of the Hybrid III. For example, Chrysler said that it had acquired two Hybrid III test dummies, but has been unable to obtain the lower leg and neck instrumentation for five months. Likewise, Ford said that it has been unable to obtain the knee displacement and chest deflection measurement devices for the Hybrid III. It also said that of the test dummies it had received, none had sufficient spine stiffness to meet the Hybrid III specifications. Ford claimed to have problems in retaining a stable dummy posture which would make it difficult to carry out some of the specified calibration tests. Subsequent investigation showed that the instability was caused by out-of-specification rubber hardness of the lumbar spine, and was eliminated when spines of correct hardness were used. In addition, Ford said that the necks and ribs of the test dummy would not pass the proposed calibration procedures. Finally, Ford said that the equipment needed for calibrating the dummy is not commercially available.

Although the commenters indicated they had experienced difficulty in obtaining the instrumentation for the Hybrid III's neck and lower legs, they did not indicate that there is any problem in obtaining the instrumentation needed to measure the three injury criteria presently required by Standard No. 208, the head injury criterion, chest acceleration, and femur loading and which are being adopted by this rule for the Hybrid III. For example, Volkswagen said it had obtained Hybrid III test dummies with sufficient instrumentation to measure the same injury criteria as with the Part 572. VW did say it had ordered the additional test devices and instrumentation for the Hybrid III but was told the instrumentation would not be available for six months.

The agency notes that there are now two commercial suppliers of the Hybrid III test dummy, Alderson Research Labs (ARL) and Humanoid Systems. Humanoid has built nearly 100 test dummies and ALR has produced five prototype test dummies as of the end of December 1985. Both manufacturers have indicated that they are now capable of producing sufficient Hybrid IIIs to meet the demand for those dummies. For example, Humanoid Systems said that while the rate of production is dependent on the number of orders, generally three test dummies per week are produced. Thus, in the case of the basic test dummy, there appears to be sufficient commercial capacity to provide sufficient test dummies for all vehicle manufacturers.

As to test dummy instrumentation, the agency is aware that there have been delays in obtaining the new neck, thorax, and lower leg instrumentation for the Hybrid III. However, as Humanoid commented, while there have been delays, the supplies of the needed parts are expected to increase. Even if the supply of the lower leg instrumentation is slow to develop, this will not pose a problem, since the agency is not adopting, at this time, the proposed lower leg injury criteria. In the case of the neck instrumentation, the supply problem should be minimized because each test facility will only need one neck transducer to calibrate all of its test dummies. The neck instrumentation will not be needed for a manufacturer's crash testing since at this time, the agency is not adopting any neck injury criteria. In the case of the instrumentation for measuring thoracic deflection, the supplier has indicated that it can deliver the necessary devices within 3 months of the time an order is placed. As to Ford's comment about calibration test equipment, the agency notes that current equipment used for calibrating the existing Part 572 test dummy can be used, with minor modification, to calibrate the Hybrid III test dummy.

Calibration Requirements

In addition to having complete technical drawings and specifications, a test dummy must have adequate calibration test procedures. The calibration tests involve a series of static and dynamic tests of the test dummy components to determine whether the responses of the test dummy fall within specified performance requirements for each test. The testing involves instrumenting the head, thorax and femurs to measure the test dummy's responses. In addition, there are tests of the neck, whose structural properties may have considerable influence on the kinematics and impact responses of the instrumented head. Those procedures help ensure that the test dummy has been properly assembled and that, as assembled, it will provide repeatable and reproducible results in crash testing. (Repeatability refers to the ability of the same test dummy to produce the same results when subjected to several identical tests. Reproducibility refers to the ability of one test dummy to provide the same results as another test dummy built to the same specifications.)

Lumbar Spine Calibration Test

The technical specifications for the Hybrid III set out performance requirements for the hardness of the rubber used in the lumbar spine to ensure that the spine will have appropriate rigidity. NHTSA's test data show that there is a direct relationship between rubber hardness and stiffness of the spine and

that the technical specification on hardness is sufficient to ensure appropriate spine stiffness. Accordingly, the agency believes that a separate calibration test for the lumbar spine is not necessary. Humanoid supported the validity of relying on the spine hardness specification to assure adequate stability of the dummy's posture, even though it found little effect on the dummy's impact response. Humanoid's support for this approach was based on tests of Hybrid III dummies which were equipped with a variety of lumbar spines having different rubber hardnesses.

Subsequent to issuance of the notice, the agency has continued its testing of the Hybrid III test dummy. Through that testing, the agency found that commercially available necks either cannot meet or cannot consistently meet all of the calibration tests originally proposed for the neck. To further evaluate this problem, NHTSA and GM conducted a series of round robin tests in which a set of test dummies were put through the calibration tests at both GM's and NHTSA's test laboratories.

The test results, which were placed in the docket after the tests were completed, showed that none of the necks could pass all of the originally specified calibration tests.

In examining the test data, the agency determined that while some of the responses of the necks fell slightly outside of the performance corridors proposed in the calibration tests, the responses of the necks showed a relatively good match to existing biomechanical data on human neck responses. Thus, while the necks did not meet all of the calibration tests, they did respond as human necks are expected to respond.

In discussions with GM, the agency learned that the calibration performance requirements were originally established in 1977 based on the responses of three prototype Hybrid III necks. GM first examined the existing biomechanical data and established several performance criteria that reflected human neck responses. GM then built necks which would meet the biomechanically based performance criteria. GM established the calibration tests that it believed were necessary to ensure that the necks of the prototype test dummies would produce the required biomechanical responses. Although extensive performance specifications may have been needed for the development of specially built prototype necks, not all of the specifications appear to be essential once the final design was established for the mass-produced commercial version. Based on the ability of the commercially available test dummies to meet the biomechanical response criteria, NHTSA believes that the GM-

derived calibration requirements should be adjusted to reflect the response characteristics of commercially available test dummies and simplified as much as possible to reduce the complexity of the testing.

Based on the results of the NHTSA-GM calibration test series, the agency is making the following changes to the neck calibration tests. In the flexion (forward bending) calibration test, the agency is:

1. increasing the time allowed for the neck to return to its preimpact position after the pendulum impact test from a range of 109–119 milliseconds to a range of 113–128 milliseconds.

2. changing the limits for maximum head rotation from a range of 67°–79° to a range of 64°–78°.

3. expanding the time limits during which maximum moment must occur from a range of 46–56 milliseconds to 47–58 milliseconds.

4. modifying the limits for maximum moment from a range of 72–90 ft-lbs to a range of 65–80 ft-lbs.

5. increasing the time for the maximum moment to decay from a range of 95–105 milliseconds to a range of 97–107 milliseconds.

In the extension (backward bending) calibration test, the agency is:

1. expanding the time allowed for the neck to return to its preimpact position after the pendulum impact test from a range of 157–167 milliseconds to a range of 147–174 milliseconds.

2. changing the limits for maximum head rotation from a range of 94°–106° to a range of 81°–106°.

3. expanding the time limit during which the minimum moment must occur from a range of 69–77 milliseconds to 65–79 milliseconds.

4. modifying the limits for minimum moment from a range of –52 to –63 ft-lbs to a range of –39 to –59 ft-lbs.

5. increasing the time for the minimum moment to decay from the range of 120–144 milliseconds, contained in GM's technical specifications for the Hybrid III, to a range of 120–148 milliseconds.

In reviewing the NHTSA-GM test data, the agency also identified several ways of simplifying the neck's performance requirements. In each case, the following calibration specifications appear to be redundant and their deletion should not affect the performance of the neck. The agency has thus deleted the requirement for minimum moment in flexion and the time requirement for that moment. For extension, the agency has eliminated the limit on the maximum moment permitted and the time requirement for that moment. The agency has

deleted those requirements since the specification on maximum rotation of the neck in flexion and minimum rotation of the neck in extension appear to adequately measure the same properties of the neck. Similarly, the agency has simplified the test by eliminating the pendulum braking requirement for the neck test, since GM's testing shows that the requirement is not necessary to ensure test consistency. Finally, the agency is clarifying the test procedure by deleting the specification in the GM technical drawings for the Hybrid III calling for two pre-calibration impact tests of the neck. GM has informed the agency that the two pre-calibration tests are not necessary.

Based on the NHTSA-GM calibration test data, the agency is making two additional changes to the neck calibration test procedure. Both NHTSA and GM routinely control the calibration pendulum impact speed to within plus or minus one percent. Currently available dummy necks are able to meet the calibration response requirements consistently when the pendulum impact speed is controlled to that level. Thus, NHTSA believes that the proposed range of allowable velocities (± 8.5 percent) for the pendulum impact is excessive. Reducing the allowable range is clearly feasible and will help maintain a high level of consistency in dummy neck responses. The agency has therefore narrowed the range of permissible impact velocities to the neck to ± 2 percent. This range is readily obtainable with commercially available test equipment. In reviewing the neck calibration test data, GM and NHTSA noted a slight sensitivity in the neck response to temperature variation. In its docket submission of January 27, 1986, GM recommended controlling the temperature during the neck calibration test to $71^\circ \pm 1^\circ$. NHTSA agrees that controlling the temperature for the neck calibration test will reduce variability, but the agency believes that a slightly wider temperature range of 69° to 72° , which is the same range used in the chest calibration test, is sufficient.

Neck Durability

Nissan commented that, in sled tests of the two test dummies, the neck bracket of one of the Hybrid III test dummies experienced damage after 10 tests, while the Part 572 test dummy had no damage. The agency believes that Nissan's experience may be the result of an early neck design which has been subsequently modified by GM. (See GM letter of September 16, 1985, Docket 74-14, Notice 39, Entry 28.) The agency has conducted numerous 30 mile per hour vehicle impact tests using the Hybrid III test dummy and has not had any neck bracket failures.

Thorax Calibration Test

As a part of the NHTSA-GM calibration test series, both organizations also performed the proposed calibration test for the thorax on the same test dummies. That testing showed relatively small differences in the test results measured between the two test facilities. The test results from both test facilities show that the chest responses of the Hybrid III test dummies were generally within the established biomechanical performance corridors for the chest. In addition, the data showed that the Hybrid III chest responses fit those corridors substantially better than the chest responses of the existing Part 572 test dummy. The data also showed that the chest responses in the high speed (22 ft/sec) pendulum impact test more closely fit the corridors than did the chest responses in the low speed (14 ft/sec) test. In addition, the data showed that if a test dummy performed satisfactorily in the low speed pendulum impact test, it also performed satisfactorily in the more severe high speed test.

Based on those results, GM recommended in a letter of January 27, 1986, (Docket No. 74-14, Notice 39, Entry 41) that only the low speed pendulum impact be used in calibration testing of the Hybrid III chest. GM noted that deleting the more severe pendulum impact test "can lead to increasing the useful life of the chest structure."

Based on the test data, the agency agrees with the GM recommendation that only one pendulum impact test is necessary. NHTSA recognizes that using only the low speed pendulum impact will increase the useful life of the chest. However, the agency has decided to retain the high speed rather than the low speed test. While NHTSA recognizes that the high speed test is more severe, the agency believes the high speed test is more appropriate for a number of reasons. First, the data showed that the high speed chest impact responses compared more closely with the biomechanical corridors than the low speed responses. Thus, use of the high speed test will make it easier to identify chests that do not have the correct biofidelity. In addition, since the higher speed test is more severe it will subject the ribcage to higher stresses, which will help identify chest structural degradation. Finally, the high speed impact test is more representative of the range of impacts a test dummy can receive in a vehicle crash test.

Although the NHTSA-GM test data showed that the production version of the Hybrid III chest had sufficient biofidelity, the data indicated that proposed calibration performance requirements

should be lightly changed to account for the wider range in calibration test responses measured in commercially available test dummies. Accordingly, the agency is adjusting the chest deflection requirement to increase the allowable range of deflections from 2.51–2.75 inches to 2.5–2.85 inches. In addition, the agency is adjusting the resistive force requirement from a range of 1186–1298 pounds to a range of 1080–1245 pounds. Also, the hysteresis requirement is being adjusted from a 75–80 percent range to a 69–85 percent range. Finally, the agency is clarifying the chest calibration test procedure by deleting the specification in GM's technical drawing for the Hybrid III that calls for two pre-calibration impact tests of the chest. GM has informed the agency that these tests are not necessary. These slight changes will not affect the performance of the Hybrid III chest, since the NHTSA-GM test data showed that commercially available test dummies meeting these calibration specifications had good biofidelity.

Chest Durability

Testing done by the agency's Vehicle Research and Test Center has indicated that the durability of the Hybrid III's ribs in calibration testing is less than that of the Part 572 test dummy. ("State-of-the-Art Dummy Selection, Volume I" DOT Publication No. HS 806 722) The durability of the Hybrid III was also raised by several commenters. For example, Toyota raised questions about the durability of the Hybrid III's ribs and suggested the agency act to improve their durability.

The chest of the Hybrid III is designed to be more flexible, and thus more human-like, than the chest of the Part 572 test dummy. One of the calibration tests used for the chest involves a 15 mph impact into the chest by a 51.5 pound pendulum; an impact condition which is substantially more severe than a safety belt or airbag restrained occupant would experience in most crashes. The chest of the Hybrid III apparently degrades after such multiple impacts at a faster rate than the chest of the Part 572 test dummy. As the chest gradually deteriorates, the amount of acceleration and deflection measured in the chest are also affected. Eventually the chest will fall out of specification and will require either repair or replacement.

In its supplemental comments to the April 1985 notice, GM provided additional information about the durability of the Hybrid III ribs. GM said that it uses the Hybrid III in unbelted testing, which is the most severe test for the dummy. GM said that the Hybrid III can be used for about 17 crash tests before the ribs must be replaced. GM explained

that it does not have comparable data for the Part 572 test dummy since it does not use that test dummy in unbelted tests. GM said, however, that it believes that the durability of the Part 572 test dummy ribs in vehicle crash testing would be comparable to that of the Hybrid III.

Having reviewed all the available information, the agency concludes that both the Hybrid III and existing Part 572 test dummy ribs will degrade under severe impact conditions. Although the Hybrid III's more flexible ribs may need replacement more frequently, particularly after being used in unrestrained testing, the Hybrid III's ribs appear to have reasonable durability. According to GM's data, which is in line with NHTSA's crash test experience, the Hybrid III's ribs can withstand approximately 17 severe impacts, such as found in unrestrained testing, before they must be replaced. Ford, in a presentation at the MVMA Hybrid III workshop held on February 5, 1986, noted that one of its belt-restrained Hybrid III test dummies was subjected to 35 vehicle and sled crashes without any failures. The potential lower durability of the ribs in unrestrained testing should be of little consequence if the Hybrid III test dummy is used in air bag or belt testing.

Chest Temperature Sensitivity

The April 1985 notice said NHTSA tests have indicated that the measurements of chest deflection and chest acceleration by the Hybrid III are temperature sensitive. For this reason, GM's specifications for the Hybrid III recognize this problem and call for using the test dummy in a narrower temperature range (69° to 72° F) to ensure the consistency of the measurements. GM has also suggested the use of an adjustment factor for calculating chest deflection when the Hybrid III is used in a test environment that is outside of the temperature range specified for the chest. While this approach may be reasonable to account for the adjustment of the deflection measurement, there is no known method to adjust the acceleration measurement for variations in temperature. For this reason, the agency is not adopting GM's proposed adjustment factor, but is instead retaining the proposed 69° to 72° F temperature range.

A number of commenters addressed the feasibility and practicability of maintaining that temperature range. BMW said that although it has an enclosed crash test facility, it had reservations about its ability to control the test temperature within the proposed range. Daihatsu said that it was not sure it could assure the test dummy's temperature will

remain within the proposed range. Honda said that while it had no data on the temperature sensitivity of the Hybrid III, it questioned whether the proposed temperature range was practical. Mercedes-Benz said it is not practicable to maintain the proposed temperature range because the flood lights necessary for high speed filming of crash tests can cause the test dummy to heat up. Nissan said it was not easy to maintain the current 12 degree range specified for the existing Part 572 test dummy and thus it would be hard to maintain the three degree range proposed for the Hybrid III. Ford also said that maintaining the three degree range could be impracticable in its current test facilities.

Other manufacturers tentatively indicated that the proposed temperature range may not be a problem. VW said the temperature range should not be an insurmountable problem, but more experience with the Hybrid III is necessary before any definite conclusions can be reached. Volvo said it could maintain the temperature range in its indoor test facilities, but it questioned whether outdoor test facilities could meet the proposed specification. Humanoid indicated in its comments, that it has developed an air conditioning system individualized for each test dummy which will maintain a stable temperature in the test dummy up to the time of the crash test.

The agency believes that there are a number of effective ways to address the temperature sensitivity of the Hybrid III chest. The test procedure calls for placing the test dummy in an area, such as a closed room, whose temperature is maintained within the required range for at least four hours before either the calibration tests or the use of the test dummy in a crash test. The purpose of the requirement is to ensure that the primary components of the test dummy have reached the correct temperature before the test dummy is used in a test. As discussed below, analytical techniques can be used to determine the temperature within the test dummy, to calculate how quickly the test dummy must be used in a crash test before its temperature will fall outside the required temperature range.

Testing done by the agency with the current Part 572 test dummy, whose construction and materials are similar to the Hybrid III, has determined how long it takes for various test dummy components to reach the required temperature range once the test dummy is placed in a room within that range. ("Thermal Responses of the Part 572 Dummy to Step Changes in Ambient Temperature" DOT Publication No. HS-801 960, June 1976) The testing was done by placing thermocouples, devices to

measure temperature, at seven locations within the dummy and conducting a series of heating and cooling experiments. The tests showed that the thermal time constants (the thermal time constant is the time necessary for the temperature differential between initial and final temperatures to decrease from its original value to 37% of the original differential) varied from 1.2 hours for the forehead to 6.2 hours for the lumbar spine. Using this information it is possible to estimate the time it takes a test dummy originally within the required temperature range to fall out of the allowable range once it has been exposed to another temperature. The rib's thermal time constant is 2.9 hours. This means, for example, that if a test dummy's temperature has been stabilized at 70.5° F and then transferred to a test environment at 65° F, it would take approximately 0.8 hours for the rib temperature to drop to 69° F, the bottom end of the temperature range specified in Part 572.

Thus, the NHTSA test results cited above show that the chest can be kept within the range proposed by the agency if the test dummy is placed in a temperature-controlled environment for a sufficient time to stabilize the chest temperature. Once the chest of the test dummy is at the desired temperature, the test data indicate that it can tolerate some temperature variation at either an indoor or outdoor crash test site and still be within the required temperature range as long as the crash test is performed within a reasonable amount of time and the temperature at the crash site, or within the vehicle, or within the test dummy is controlled close to the 69 to 72 degrees F range. Obviously, testing conducted at extremely high or low temperatures can move the test dummy's temperature out of the required range relatively quickly, if no means are used to maintain the temperature of the test dummy within the required range. However, auxiliary temperature control devices can be used in the vehicle or the test environment to maintain a stabilized temperature prior to the crash test. Therefore, the agency has decided to retain the proposed 69 to 72 degrees F temperature range.

Chest Response to Changes in Velocity

The April notice raised the issue of the sensitivity of the Hybrid III's chest to changes in impact velocities. The notice pointed out that one GM study on energy-absorbing steering columns ("Factors Influencing Laboratory Evaluation of Energy-Absorbing Steering Systems," Docket No. 74-14, Notice 32, Entry 1666B) indicated that the Hybrid III's chest may be insensitive to changes in impact

velocities and asked commenters to provide further information on this issue.

Both GM and Ford provided comments on the Hybrid III's chest response. GM said that since the Hybrid III chest is designed to have a more human-like thoracic deflection than the Part 572 test dummy, the Hybrid III's response could be different. GM referenced a study ("System Versus Laboratory Impact Tests for Estimating Injury Hazard" SAE paper 680053) which involved cadaver impacts into energy-absorbing steering columns. The study concluded that the force on the test subject by the steering assembly was relatively constant despite changes in test speeds. GM said that this study indicated that "rather than the Hybrid III chest being insensitive to changes in velocity in steering system tests, it is the Part 572 which is too sensitive to changes in impact velocity to provide meaningful information for evaluating steering systems."

GM also presented new data on chest impact tests conducted on the Hybrid III and Part 572 test dummies. The tests involved chest impacts by three pendulum impact devices with different masses and three impact speeds. GM said that the test results show that "the Hybrid III chest deflection is sensitive to both changes in impact velocity and impactor mass." Ford also noted that the Hybrid III appears sensitive in the range of speed and deflections that are relevant to Standard No. 208 testing with belt-restrained dummies.

Ford noted that the GM testing referenced in the April notice was conducted at higher impact speeds than used in the calibration testing of the Hybrid III. Ford said it agreed with GM that the indicated insensitivity of chest acceleration to speed and load is a reflection of the constant-force nature of the steering column's energy absorption features. After reviewing the information provided by Ford and GM, NHTSA agrees that in an impact with a typical steering column, once the energy-absorbing mechanism begins to function, the test dummy's chest will receive primarily constant force. The lower stiffness of the Hybrid III chests would make it respond in a more human-like manner to these forces than the existing Part 572 test dummy.

Chest Accelerometer Placement

Volvo pointed out that the chest accelerometer of the Hybrid III is located approximately at the center of gravity of the chest, while the accelerometer is higher and closer to the back in the Part 572 test dummy. Volvo said that since the biomechanical tolerance limits for the chest were established using a location similar to that in the Part 572, it

questioned whether the acceleration limits should apply to the Hybrid III. Volvo recommended changing the location of the accelerometer in the Hybrid III or using different chest acceleration criteria for the Hybrid III.

The agency recognizes that Hybrid III accelerometer placement should more correctly reflect the overall response of the chest because it is placed at the center of gravity of the chest. However, the dimensional differences between the accelerometer placements in the two test dummies are so small that in restrained crash tests the differences in acceleration response, if any, should be minimal.

Repeatability and Reproducibility

As discussed previously, test dummy repeatability refers to the ability of one test dummy to measure consistently the same responses when subjected to the same test. Reproducibility refers to the ability of two or more test dummies built to the same specifications to measure consistently the same responses when they are subjected to the same test.

Ford said that it is particularly concerned about the repeatability of the chest acceleration and deflection measurements of the Hybrid III and about the reproducibility of the Hybrid III in testing by different laboratories. Ford said that once a test dummy positioning procedure has been established, the agency should conduct a series of 16 car crash tests to verify the repeatability and reproducibility of the Hybrid III.

In its comments, GM provided data showing that the repeatability of the Hybrid III is the same as the existing Part 572 test dummy. Volvo, the only other commenter that addressed repeatability, also said that its preliminary tests show that the Hybrid III has a repeatability comparable to the Part 572. The agency's Vehicle Research and Test Center has also evaluated the repeatability of the Hybrid III and the Part 572 in a series of sled tests. The data from those tests show that the repeatability of the two test dummies is comparable. ("State-of-the-Art Dummy Selection, Volume I" DOT Publication No. HS 806 722.)

GM also provided data showing that the reproducibility of the Hybrid III is significantly better than the Part 572. In its supplemental comments filed on September 16, 1985, GM also said that Ford's proposed 16 car test program was not needed. GM said that "in such test the effects of vehicle build variability and test procedure variability would totally mask any effect of Hybrid III repeatability and reproducibility."

The agency agrees with GM that additional testing is unnecessary. The information Provided by GM and Volvo shows that the repeatability of the Hybrid III is at least as good as the repeatability of the existing Part 572 test dummy. Likewise, the GM data show that the reproducibility of the Hybrid III is better than that of the existing Part 572 test dummy. Likewise, the recent NHTSA-GM calibration test series provides further confirmation that tests by different laboratories show the repeatability and reproducibility of the Hybrid III.

Equivalence of Hybrid III and Part 572

As noted in the April 1985 notice, the Hybrid III and the Part 572 test dummies do not generate identical impact responses. Based on the available data, the agency concluded that when both test dummies are tested in lap/shoulder belts or with air cushions, the differences between the two test dummies are minimal. The agency also said that it knew of no method for directly relating the response of the Hybrid III to the Part 572 test dummy.

The purpose of comparing the response of the two test dummies is to ensure that the Hybrid III will meet the need for safety by adequately identifying vehicle designs which could cause or increase occupant injury. The agency wants to ensure that permitting a choice of test dummy will not lead to a degradation in safety performance.

As mentioned previously, one major improvement in the Hybrid III is that it is more human-like in its responses than the current Part 572 test dummy. The primary changes to the Hybrid III that make it more human-like are to the neck, chest and knee. Comparisons of the responses of the Part 572 and Hybrid III test dummies show that responses of the Hybrid III are closer than the Part 572 to the best available data on human responses. (See Chapter II of the Final Regulatory Evaluation on the Hybrid III.)

In addition to being more human-like, the Hybrid III has increased measurement capabilities for the neck (tension, compression, and shear forces and bending moments), chest (deflection), knee (knee shear), and lower leg (knee and tibia forces and moments). The availability of the extra injury measuring capability of the Hybrid III gives vehicle manufacturers the potential for gathering far more information about the performance of their vehicle designs than they can obtain with the Part 572.

To evaluate differences in the injury measurements made by the Hybrid III and the existing Part 572 test dummy, the agency has reviewed all of the available data comparing the two test dummies. The data come from a variety of sled

barrier crash tests conducted by GM, Mercedes-Benz, NHTSA, Nissan, and Volvo. The data include tests where the dummies were unrestrained and tests where the dummies were restrained by manual lap/shoulder belts, automatic belts, and air bags. For example, subsequent to issuance of the April 1985 notice, NHTSA did additional vehicle testing to compare the Part 572 and Hybrid III test dummies. The agency conducted a series of crash tests using five different types of vehicles to measure differences in the responses of the test dummies. Some of the tests were frontal 30 mile per hour barrier impacts, such as are used in Standard No. 208 compliance testing, while others were car-to-car tests. All of the tests were done with unrestrained test dummies to measure their impact responses under severe conditions. The agency's analysis of the data for all of the testing done by NHTSA and others is fully described in the Final Regulatory Evaluation for this rulemaking. This notice will briefly review that analysis.

One of the reasons for conducting the analysis was to address the concern raised by the Center for Auto Safety (CAS) in its original petition and the Insurance Institute for Highway Safety (IIHS) in its comments that the Hybrid III produces lower HIC responses than the existing Part 572 test dummy. As discussed in detail below, the test data do not show a trend for one type of test dummy to consistently measure higher or lower HIC's or femur readings than the other. Based on these test data, the agency concludes that the concern expressed by CAS and IIHS that the use of the Hybrid III test dummy will give a manufacturer an advantage in meeting the HIC performance requirement of Standard No. 208 is not valid.

In the case of chest acceleration measurements, the data again do not show consistently higher or lower measurements for either test dummy, except in the case of unrestrained tests. In unrestrained tests, the data show that the Hybrid III generally measures lower chest g's than the existing Part 572 test dummy. This difference in chest g's measurement is one reason why the agency is adopting the additional chest deflection measurement for the Hybrid III, as discussed further below.

HIC Measurements

The April 1985 notice specifically invited comments on the equivalence of the Head Injury Criterion (HIC) measurements of the two test dummies. Limited laboratory testing done in a University of California at San Diego study conducted by Dr. Dennis Schneider and others had indicated that

the Hybrid III test dummy generates lower acceleration responses than either the Part 572 test dummy or cadaver heads in impacts with padded surfaces. The notice explained that the reasons for those differences had not yet been resolved.

In its comments, GM explained that it had conducted a series of studies to address the Schneider results. GM said that those studies showed that the Schneider test results are "complicated by the changing characteristics of the padding material used on his impact surface. As a result, his tests do not substantiate impactor response difference between the Hybrid III head, the Part 572 head and cadaver heads. After examining our reports, Dr. Schneider agreed with the finding that padding degradation resulting from multiple impact exposures rendered an input-response comparison invalid between the cadaver and the dummies." (The GM and Schneider letters are filed in Docket 74-14, General Reference, Entry 556.)

The agency's Vehicle Research and Test Center has also conducted head drop tests of the current Part 572 and Hybrid III heads. The tests were conducted by dropping the heads onto a two inch thick steel plate, a surface which is considerably more rigid than any surface that the test dummy's head would hit in a vehicle crash test. One purpose of the tests was to assess the performance of the heads in an impact which can produce skull fractures in cadavers. The tests found that the response of the Hybrid III head was more human-like at the fracture and subfracture acceleration levels than the Part 572 head. The testing did show that in these severe impacts into thick steel plates, the HIC scores for the Hybrid III were lower than for the Part 572. However, as discussed below, when the Hybrid III is tested in vehicle crash and sled tests, which are representative of occupant impacts into actual vehicle structures, the HIC scores for the Hybrid III are not consistently lower than those of the Part 572 test dummy.

The agency examined crash and sled tests, done by GM, Mercedes-Benz, NHTSA and Volvo, in which both a Hybrid III and the existing Part 572 test dummy were restrained by manual lap/shoulder belts. (The complete results from those and all the other tests reviewed by the agency are discussed in Chapter III of the Final Regulatory Evaluation on the Hybrid III.) The HIC responses in those tests show that the Hybrid III generally had higher HIC responses than the Part 572 test dummy. Although the data show that the Hybrid III's HIC responses are generally higher, in some cases 50 percent higher than the Part 572, there are some tests in which the Hybrid III's responses were 50 percent lower than the responses of the Part 572.

For two-point automatic belts, the agency has limited barrier crash test data and the direct comparability of the data is questionable. The tests using the existing Part 572 test dummy were done in 1976 on 1976 VW Rabbits for compliance purposes. The Hybrid III tests were done in 1985 by the agency's Vehicle Research and Test Center as part of the SRL-98 test series on a 1982 and a 1984 VW Rabbit. Differences in the seats, safety belts, and a number of other vehicle parameters between these model years and between the test set-ups could affect the results. In the two-point automatic belt tests, the data show that the Hybrid III measured somewhat higher head accelerations than the existing Part 572 test dummy. In two-point automatic belts, the differences appear to be minimal for the driver and substantially larger for the passenger. In air bag sled tests, the Hybrid III's HIC responses were generally lower; in almost all the air bag tests, the HIC responses of both the Hybrid III and the Part 572 test dummies were substantially below the HIC limit of 1,000 set in Standard No. 208. Because of the severe nature of the unrestrained sled and barrier tests, in which the uncontrolled movement of the test dummy can result in impacts with different vehicle structures, there was no consistent trend for either test dummy to measure higher or lower HIC responses than the other.

Chest Measurements

For manual lap/shoulder belts, NHTSA compared the results from GM, Mercedes-Benz, NHTSA, and Volvo sled tests, and GM frontal barrier tests. The NHTSA sled test results at 30 and the Volvo sled test results at 31 mph are very consistent, with the mean Hybrid III chest acceleration response being only 2-3 g's higher than the response of the existing Part 572 test dummy. In the 35 mph Volvo sled tests, the Hybrid III chest acceleration response was up to 44 percent higher than the existing Part 572 response. The GM 30 mph sled and barrier test data were fairly evenly divided. In general, the Hybrid III chest acceleration response is slightly higher than that of the existing Part 572 test dummy. The agency concludes from these data that at Standard No. 208's compliance test speed (30 mph) with manual lap/shoulder belts there are no large differences in chest acceleration responses between the two dummies. In some vehicles, the Hybrid III may produce slightly higher responses and in other vehicles it may produce slightly lower responses.

As discussed earlier, the agency has limited test data on automatic belt tests and their comparability is questionable. The Hybrid III chest acceleration

responses are up to 1.5 times higher than those for the existing Part 572 test dummy. Only very limited sled test data are available on air bags alone, air bag plus lap belt, and air bag plus lap/shoulder belt. In all cases, the Hybrid III chest acceleration responses were lower than those for the existing Part 572 test dummy.

For unrestrained occupants, the Hybrid III produces predominantly lower chest acceleration responses than the existing Part 572 test dummy in sled and barrier tests, and in some cases the difference is significant. In some tests, the Hybrid III chest acceleration response can be 40 to 45 percent lower than the Part 572 response, although in other tests the acceleration measured by the Hybrid III can exceed that measured by the Part 572 test dummy by 10 to 15 percent.

In summary, the test data indicate the chest acceleration responses between the Hybrid III and the existing Part 572 test dummy are about the same for restrained occupants, but differ for some cases of unrestrained occupants. This is to be expected since a restraint system would tend to make the two dummies react similarly even though they have different seating postures. The different seating postures, however, would allow unrestrained dummies to impact different vehicle surfaces which would in most instances produce different responses. Since the Hybrid III dummy is more human-like, it should experience loading conditions that are more human-like than would the existing Part 572 test dummy. One reason that the agency is adding a chest deflection criterion for the Hybrid III is that the unrestrained dummy's chest may experience more severe impacts with vehicle structures than would be experienced in an automatic belt or air bag collision. Chest deflection provides an additional measurement of potential injury that may not be detected by the chest acceleration measurement.

Femur Measurements

The test data on the femur responses of the two types of test dummies also do not show a trend for one test dummy to measure consistently higher or lower responses than the other. In lap/shoulder belt tests, GM's sled and barrier tests from 1977 show a trend toward lower measurements for the Hybrid III, but GM's more recent tests in 1982-83 show the reverse situation. These tests, however, are of little significance unless there is femur loading due to knee contact. These seldom occur to lap/shoulder belt restrained test dummies. Also, in none of the tests described above do the measurements approach Standard No. 208's limit of 2250 pounds for femur

loads. The air bag test data are limited; however, they show little difference between the femur responses of the two test dummies. As would be expected, the unrestrained tests showed no systematic differences, because of the variability in the impact locations of an unrestrained test dummy.

Injury Criteria

Many manufacturers raised objections to the additional injury criteria proposed in the April 1985 notice. AMC, Ford, and MVMA argued that adopting the numerous injury criteria proposed in the April 1985 notice would compound a manufacturer's compliance test problems. For example, Ford said it "would be impracticable to require vehicles to meet such a multitude of criteria in a test with such a high level of demonstrated variability. Notice 39 appears to propose 21 added pass-fail measurements per dummy, for a total of 25 pass-fail measurements per dummy, or 50 pass-fail measurements per test. Assuming these measurements were all independent of one another, and a car design had a 95% chance of obtaining a passing score on each measurement, the chance of obtaining a passing score on all measurements in any single test for a single dummy would be less than 28% and for both dummies would be less than 8%." Ford, Nissan, VW and Volvo also said that with the need for additional measurements, there will be an increase in the number of tests with incomplete data. BMW, while supporting the use of the Hybrid III as a potential improvement to safety, said that the number of measurements needed for the additional injury criteria is beyond the capability of its present data processing equipment.

VW said there is a need to do additional vehicle testing before adopting any new criteria. It said that if current production vehicles already meet the additional criteria then the criteria only increase testing variability without increasing safety. If current vehicles cannot comply, then additional information is needed about the countermeasures needed to meet the criteria. Honda said there are insufficient data to determine the relationship between actual injury levels and the proposed injury criterion.

As discussed in detail below, the agency has decided to adopt only one additional injury criterion, chest deflection, at this time. The agency plans to issue another notice on the remaining criteria proposed in the April 1985 notice to gather additional information on the issues raised by the commenters.

Alternative HIC Calculations

The April 1985 notice set forth two proposed alternative methods of using the head injury criterion

(HIC) in situations when there is no contact between the test dummy's head and the vehicle's interior during a crash. The first proposed alternative was to retain the current HIC formula, but limit its calculation to periods of head contact only. However, in non-contact situations, the agency proposed that an HIC would not be calculated, but instead new neck injury criteria would be calculated. The agency explained that a crucial element necessary for deciding whether to use the HIC calculation or the neck criteria was an objective technique for determining the occurrence and duration of head contact in the crash test. As discussed in detail in the April 1985 notice, there are several methods available for establishing the duration of head contact, but there are questions about their levels of consistency and accuracy.

The second alternative proposed by the agency would have calculated an HIC in both contact and non-contact situations, but it would limit the calculation to a time interval of 36 milliseconds. Along with the requirement that an HIC not exceed 1,000, this would limit average head acceleration to 60 g's or less for any durations exceeding 36 milliseconds.

Almost all of the commenters opposed the use of the first proposed alternative. The commenters uniformly noted that there is no current technique that can accurately identify whether head contact has or has not occurred during a crash test in all situations. However, the Center for Auto Safety urged the agency to adopt the proposed neck criteria, regardless of whether the HIC calculation is modified.

There was a sharp division among the commenters regarding the use of the second alternative; although many manufacturers argued that the HIC calculation should be limited to a time interval of approximately 15 to 17 milliseconds (ms), which would limit average long duration (i.e., greater than 15–17 milliseconds) head accelerations to 80–85 g's. Mercedes-Benz, which supported the second alternative, urged the agency to measure HIC only during the time interval that the acceleration level in the head exceeds 60 g's. It said that this method would more effectively differentiate results received in contacts with hard surfaces and results obtained from systems, such as airbags, which provide good distribution of the loads experienced during a crash. The Center for Auto Safety, the Insurance Institute for Highway Safety and State Farm argued that the current HIC calculation should be retained; they said that the proposed alternative would lower HIC calculations without ensuring that motorists were still receiving adequate head protection.

NHTSA is in the process of reexamining the potential effects of the two alternatives proposed by the agency and of the two additional alternatives suggested by the commenters. Once that review has been completed, the agency will issue a separate notice announcing its decision.

Thorax

At present, Standard No. 208 uses an acceleration-based criterion to measure potential injuries to the chest. The agency believes that the use of a chest deflection criterion is an important supplement to the existing chest injury criterion. Excessive chest deflection can produce rib fractures, which can impair breathing and inflict damage to the internal organs in the chest. The proposed deflection limit would only apply to the Hybrid III test dummy, since unlike the existing Part 572 test dummy, it has a chest which is designed to deflect like a human chest and has the capability to measure deflection of the sternum relative to the spine, as well as acceleration, during an impact.

The agency proposed a three-inch chest deflection limit for systems, such as air bags, which symmetrically load the chest during a crash and a two-inch limit for all other systems. The reason for the different proposed limits is that a restraint system that symmetrically and uniformly applies loads to the chest increases the ability to withstand chest deflection as measured by the deflection sensor, which is centrally located in the dummy.

The commenters generally supported adoption of a chest deflection injury criterion. For example, Ford said it supported the use of a chest deflection criterion since it may provide a better means of assessing the risk of rib fractures. Likewise, the Insurance Institute for Highway Safety said the chest deflection criteria "will aid in evaluating injury potential especially in situations where there is chest contact with the steering wheel or other interior components." IIHS also supported adoption of a three-inch deflection limit for inflatable systems and a two-inch limit for all other systems. However, most of the other commenters addressing the proposed chest deflection criteria questioned the use of different criteria for different restraint systems.

GM supported limiting chest deflections to three-inches in all systems. GM said that it uses a two-inch limit as a guideline for its safety belt system testing, but it had no data to indicate that the two-inch limit is appropriate as a compliance limit.

Renault/Peugeot also questioned the three-inch deflection limit for systems that load the dummy symmetrically and two inches for systems that do

not. It said that the difference between those systems should be addressed by relocation of the deflection sensors. It also asked the agency to define what constitutes a symmetrical system. VW also questioned the appropriateness of setting separate limits for chest compression for different types of restraint systems. It recommended adoption of a three-inch limit for all types of restraint systems.

Volvo also raised questions about the appropriateness of the proposed deflection criteria. Volvo said that the GM-developed criteria proposed in the April 1985 notice were based on a comparison of accident data gathered by Volvo and evaluated by GM in sled test simulations using the Hybrid III test dummy. Volvo said that the report did not analyze "whether the chest injuries were related to the chest acceleration or the chest deflection, or a combination of both."

The agency recognizes that there are several different types of potential chest injury mechanisms and that it may not be possible to precisely isolate and measure what is the relevant contribution of each type of mechanism to the final resulting injury. However, there is a substantial amount of data indicating that chest deflection is an important contributing factor to chest injury. In addition, the data clearly demonstrate that deflection of greater than three inches can lead to serious injury. For example, research done by Neathery and others has examined the effects of frontal impacts to cadaver chests with an impactor that represents the approximate dimensions of a steering wheel hub. Neathery correlated the measured injuries with the amount of chest deflection and recommended that for a 50th percentile male, chest deflection not exceed three inches. (Neathery, R. F., "Analysis of Chest Impact Response Data and Scaled Performance Recommendations," SAE Paper No. 741188)

Work by Walfisch and others looked at crash tests of lap/shoulder belt restrained cadavers. They found that substantial injury began to occur when the sternum deflection exceeded 30 percent of the available chest depth ("Tolerance Limits and Mechanical Characteristic of the Human Thorax in Frontal and Side Impact and Transposition of these Characteristics into Protective Criteria," 1982 IRCOB Conference Proceedings). With the chest of the average man being approximately 9.3 inches deep, the 30 percent limit would translate into a deflection limit of approximately 2.8 inches. Since the chest of the Hybrid III test dummy deflects somewhat less than a human chest under similar loading conditions, the chest deflection limit for systems which do not symmetrically and uniformly

load the chest, such as lap/shoulder belts, must be set at a level below 2.8 inches to assure an adequate level of protection.

To determine the appropriate level for non-symmetrical systems, the agency first reviewed a number of test series in which cadaver injury levels were measured under different impact conditions. (All of the test results are fully discussed in Chapter III of the Final Regulatory Evaluation on the Hybrid III.) The impact conditions included 30 mph sled tests done for the agency by Wayne State University in which a pre-inflated, non-vented air bag system symmetrically and uniformly spread the impact load on the chest of the test subject. NHTSA also reviewed 30 mph sled tests done for the agency by the University of Heidelberg which used a lap/shoulder belt system, which does not symmetrically and uniformly spread chest loads. In addition, the agency reviewed 10 and 15 mph pendulum impact tests done for GM to evaluate the effects of concentrated loadings, such as might occur in passive interior impacts. The agency then compared the chest deflection results for Hybrid III test dummies subjected to the same impact conditions. By comparing the cadaver and Hybrid III responses under identical impact conditions, the agency was able to relate the deflection measurements made by the Hybrid III to a level of injury received by a cadaver.

The test results show that when using a relatively stiff air bag, which was pre-inflated and non-vented, the average injury level measured on the cadavers corresponded to an Abbreviated Injury Scale (AIS) of 1.5. (The AIS scale is used by researchers to classify injuries an AIS of one is a minor injury, while an AIS of three represents a serious injury.) In tests with the Hybrid III under the same impact conditions, the measured deflection was 2.7 inches. These results demonstrate that a system that symmetrically and uniformly distributes impact loads over the chest can produce approximately threeinches of deflection and still adequately protect an occupant from serious injury.

The testing in which the impact loads were not uniformly or symmetrically spread on the chest or were highly concentrated over a relatively small area indicated that chest deflection measured on the Hybrid III must be limited to 2-inches to assure those systems provide a level of protection comparable to that provided by systems that symmetrically spread the load. In the lap/shoulder belt tests, the average AIS was 2.6. The measured deflection for the Hybrid III chest in the same type of impact test was 1.6 inches. Likewise, the results from the

pendulum impact tests showed that as the chest deflection measured on the Hybrid III increased, the severity of the injuries increased. In the 10 mph pendulum impacts, the average AIS was 1.3 and the average deflection was 1.3 inches. In the 15 mph pendulum impacts the average AIS rose to 2.8. Under the same impact conditions, the chest deflection measured on the Hybrid III was 2.63 inches.

Based on these test results NHTSA has decided to retain the two-inch limit on chest deflection for systems that do not symmetrically and uniformly distribute impact loads over a wide area of the chest. Such systems include automatic safety belts, passive interiors and air bag systems which use a lap and shoulder belt. For systems, such as air bag only systems or air bag combined with a lap belt, which symmetrically and uniformly distribute chest forces over a large area of the chest, the agency is adopting the proposed three-inch deflection limit. This should assure that both symmetrical and non-symmetrical systems provide the same level of protection in an equivalent frontal crash.

In addition to the biomechanical basis for the chest deflection limits adopted in this notice, there is another reason for adopting a two-inch deflection limit for systems that can provide concentrated loadings over a limited area of the test dummy. The Hybrid III measures chest deflection by a deflection sensor located near the third rib of the test dummy. Tests conducted on the Hybrid III by NHTSA's Vehicle Research and Test Center have shown that the deflection sensor underestimates chest displacement when a load is applied to a small area away from the deflection sensor. (The test report is filed in Docket No. 74-14, General Reference, Entry 606.)

In a crash, when an occupant is not restrained by a system which provides centralized, uniform loading to a large area, such as an air bag system, the thorax deflection sensor can underestimate the actual chest compression. Thus, in a belt-restrained test dummy, the deflection sensor may read two-inches of deflection, but the actual deflection caused by the off-center loading of a belt near the bottom of the ribcage may be greater than two inches of deflection. Likewise, test dummies in passive interior cars may receive substantial off-center and concentrated loadings. For example, the agency has conducted sled tests simulating 30 mile per hour frontal barrier impacts in which unrestrained test dummies struck the steering column, as they would do in a passive interior equipped car. Measurements of the pre- and post-impact dimensions of the steering wheel rim showed that there was substantial non-symmetrical steering wheel deformation, even though these were frontal impacts. (See, e.g.,

"Frontal Occupant Sled Simulation Correlation, 1983 Chevrolet Celebrity Sled Buck," Publication No. DOT HS 806 728, February 1985.) The expected off-center chest loadings in belt and passive interior systems provide a further basis for applying a two-inch deflection limit for those systems to assure they provide protection comparable to that provided by symmetrical systems.

Use of Acceleration Limits for Air Bag Systems

Two commenters raised questions about the use of an acceleration-based criterion for vehicles which use a combined air bag and lap/shoulder belt system. Mercedes-Benz said that acceleration-based criteria are not appropriate for systems that reduce the deflection of the ribs but increase chest acceleration values. Ford also questioned the use of acceleration-based criteria. Ford said that its tests and testing done by Mercedes-Benz have shown that using an air bag in combination with a lap/shoulder belt can result in increased chest acceleration readings. Ford said it knew of no data to indicate that combined air bag-lap/shoulder belt system loads are more injurious than shoulder belt loads alone. Ford recommended that manufacturers have the option of using either the chest acceleration or chest deflection criterion until use of the Hybrid III is mandatory.

As discussed previously, acceleration and deflection represent two separate types of injury mechanisms. Therefore, the agency believes that it is important to test for both criteria. Although the tests by Mercedes-Benz and Ford show higher chest accelerations, the tests also show that it is possible to develop air bag and lap/shoulder belt systems and meet both criteria. Therefore, the agency is retaining the use of the acceleration-based criterion.

Use of Additional Sensors

Mercedes-Benz said the deflection measuring instrumentation of the Hybrid III cannot adequately measure the interaction between the chest and a variety of vehicle components. Mercedes-Benz said that it is necessary to use either additional deflection sensors or strain gauges. Renault/Peugeot recommended that the agency account for the difference between symmetrical systems and asymmetrical systems by relocating the deflection sensor.

The agency recognizes that the use of additional sensors could be beneficial in the Hybrid III to measure chest deflection. However, such technology would require considerable further development before it could be used for compliance purposes. NHTSA believes that, given the current level of technology, use of a single sensor is sufficient for

the assessment of deflection-caused injuries in frontal impacts.

Femurs

The April 1985 notice proposed to apply the femur injury reduction criterion used with the Part 572 test dummy to the Hybrid III. That criterion limits the femur loads to 2250 pounds to reduce the possibility of femur fractures. No commenter objected to the proposed femur limit and it is accordingly adopted.

Ford and Toyota questioned the need to conduct three pendulum impacts for the knee. They said that using one pendulum impact with the largest mass impactor (11 pounds) was sufficient. GM has informed the agency that the lower mass pendulum impactors were used primarily for the development of an appropriate knee design. Now that the knee design is settled and controlled by the technical drawings, the tests with the low mass impactors are not needed. Accordingly, the agency is adopting the suggestion from Ford and Toyota to reduce the number of knee calibration tests and will require only the use of the 11-pound pendulum impactor.

Hybrid III Positioning Procedure

The April notice proposed new positioning procedures for the Hybrid III, primarily because the curved lumbar spine of that test dummy requires a different positioning technique than those for the Part 572. Based on its testing experience, NHTSA proposed adopting a slightly different version of the positioning procedure used by GM. The difference was the proposed use of the Hybrid III, rather than the SAE J826 H-point machine, with slightly modified leg segments, to determine the H-point of the seat.

GM urged the agency to adopt its dummy positioning procedure. GM said that users can more consistently position the test dummy's H-point using the SAE H-point machine rather than using the Hybrid III. Ford, while explaining that it had insufficient experience with the Hybrid III to develop data on positioning procedures, also urged the agency to adopt GM's positioning procedure. Ford said that since GM has developed its repeatability data on the Hybrid III using its positioning procedure, the agency should use it as well. Ford also said that the use of GM's method to position the test dummy relative to the H-point should reduce variability.

Based on a new series of dummy positioning tests done by the agency's Vehicle Research and Test Center (VRTC), NHTSA agrees that use of the SAE H-point machine is the most consistent method to position the dummy's H-point on the vehicle seat.

Accordingly, the agency is adopting the use of the H-point machine.

In the new test series, VRTC also evaluated a revised method for positioning the Hybrid III test dummy. The testing was done after the results of a joint NHTSA-SAE test series conducted in November 1985 showed that the positioning procedure used for the current Part 572 test dummy and the one proposed in the April 1985 notice for the Hybrid III does not satisfactorily work in all cars. (See Docket 74-14, Notice 39, Entry 39.) The positioning problems are principally due to the curved lumbar spine of the Hybrid III test dummy. In its tests, VRTC positioned the Hybrid III by using the SAE H-point machine and a specification detailing the final position of the Hybrid III body segments prior to the crash test. The test results showed that the H-point of the test dummy could be consistently positioned but that the vertical location of the Hybrid III H-point is $\frac{1}{4}$ inch below the SAE H-point machine on average. Based on these results, the agency is adopting the new positioning specification for the Hybrid III which requires the H-point of the dummy to be within a specified zone centered $\frac{1}{4}$ inch below the H-point location of the SAE H-point machine.

GM also urged the agency to make another slight change in the test procedures. GM said that when it settles the test dummy in the seat it uses a thin sheet of plastic behind the dummy to reduce the friction between the fabric of the seat back and the dummy. The plastic is removed after the dummy has been positioned. GM said this technique allows the dummy to be more repeatably positioned. The agency agrees that use of the plastic sheet can reduce friction between the test dummy and the seat. However, the use of the plastic can also create problems, such as dislocating the test dummy during removal of the plastic. Since the agency has successfully conducted its positioning tests without using a sheet of plastic, the agency does not believe there is a need to require its use.

Ford noted that the test procedure calls for testing vertically adjustable seats in their lowest position. It said such a requirement was reasonable for vertically adjustable seats that could not be adjusted higher than seats that are not vertically adjustable. However, Ford said that new power seats can be adjusted to positions above and below the manually adjustable seat position. It said that testing power seats at a different position would increase testing variability. Ford recommended adjusting vertically adjustable seats so that the dummy's hip point is as close as possible to the manufacturer's design

H-point with the seat at the design mid-point of its travel.

The agency recognizes that the seat adjustment issue raised by Ford may lead to test variability. However, the agency does not have any data on the effect of Ford's suggested solution on the design of other manufacturer's power seats. The agency will solicit comments on Ford's proposal in the NPRM addressing additional Hybrid III injury criteria.

Volvo said that the lumbar supports of its seats influence the positioning of the Hybrid III. It requested that the test procedure specify that adjustable lumbar supports should be positioned in their rearmost position. Ford made a similar request. GM, however, indicated that it has not had any problems positioning the Hybrid III in seats with lumbar supports. To reduce positioning problems resulting from the lumbar supports in some vehicles, the agency is adopting Ford's and Volvo's suggestion.

Test Data Analysis

The Chairman of the Society of Automotive Engineers Safety Test Instrumentation Committee noted that the agency proposed to reference an earlier version of the SAE Recommended Practice on Instrumentation (SAE J211a, 1971). He suggested that the agency reference the most recent version (SAE J211, 1980), saying that better data correlation between different testing organizations would result. The agency agrees with SAE and is adopting the SAE J211, 1980 version of the instrumentation Recommended Practice.

Ford and GM recommended that the figures 25 and 26, which proposed a standardized coordinate system for major body segments of the test dummy, be revised to reflect the latest industry practice on coordinate signs. Since those revisions will help ensure uniformity in data analysis by different test facilities, the agency is making the changes for the test measurements adopted in this rulemaking.

Both GM and Ford also recommended changes in the filter used to process electronically measured crash data. GM suggested that a class 180 filter be used for the neck force transducer rather than the proposed class 60 filter. Ford recommended the use of a class 1,000 filter, which is the filter used for the head accelerometer.

NHTSA has conducted all of the testing used to develop the calibration test requirement for the neck using a class 60 filter. The agency does not have any data showing the effects of using either the class 180 filter proposed by GM or the class 1,000 filter proposed by Ford. Therefore the agency has adopted

the use of a class 60 filter for the neck transducer during the calibration test. The agency also used a class 60 filter for the accelerometer mounted on the neck pendulum and is therefore adopting the use of that filter to ensure uniformity in measuring pendulum acceleration.

Optional and Mandatory Use of Hybrid III

AMC, Chrysler, Ford, Jaguar and Subaru all urged the agency to defer a decision on permitting the optional use of the Hybrid III test dummy until manufacturers have had more experience with using that test dummy. AMC said it has essentially no experience with the Hybrid III and urged the agency to postpone a decision on allowing the optional use of that test dummy. AMC said this would give small manufacturers time to gain experience with the Hybrid III.

Chrysler also said that it has no experience with the Hybrid III test dummy and would need to conduct two years of testing to be able to develop sufficient information to address the issues raised in the notice. Chrysler said that it was currently developing its 1991 and 1992 models and has no data from Hybrid III test dummies on which to base its design decisions. It said that allowing the optional use of the Hybrid III before that time would give a competitive advantage to manufacturers with more experience with the test device and suggested indefinitely postponing the mandatory effective date.

Ford said that the effective date proposed for optional use of the Hybrid III should be deferred to allow time to resolve the problems Ford raised in its comments and to allow manufacturers time to acquire Hybrid III test dummies. It suggested deferring the proposed optional use until at least September 1, 1989. Ford also recommended that the mandatory use be deferred. Jaguar also said it has not had experience with the Hybrid III and asked that manufacturers have until September 1, 1987, to accumulate information on the performance of the test dummy. Subaru said that it has exclusively used the Part 572 test dummy and does not have any experience with the Hybrid III. It asked the agency to provide time for all manufacturers to gain experience with the Hybrid III, which in its case would be two years, before allowing the Hybrid III as an alternative.

A number of manufacturers, such as GM, Honda, Mercedes-Benz, Volkswagen, and Volvo, that supported optional use of the Hybrid III, urged the agency not to mandate its use at this time. GM asked the agency to permit the immediate optional use of the Hybrid III, but urged NHTSA to provide more

time for all interested parties to become familiar with the test dummy before mandating its use. Honda said that while it supported optional use, it was just beginning to assess the performance of the Hybrid III and needed more time before the use of the Hybrid III is mandated. Mercedes-Benz also supported the use of the Hybrid III as an alternative test device because of its capacity to measure more types of injuries and because of its improved biofidelity for the neck and thorax. However, Mercedes recommended against mandatory use until issues concerning the Hybrid III's use in side impact, the biofidelity of its leg, durability and chest deflection measurements are resolved. Nissan opposed the mandatory use of the Hybrid III saying there is a need to further investigate the differences between the Hybrid III and the Part 572. Toyota said that it was premature to set a mandatory effective date until the test procedure and injury criteria questions are resolved. Volkswagen supported the adoption of the Hybrid III as an alternative test device, but it opposed mandating its use. Volvo supported the optional use of the Hybrid III. It noted that since NHTSA is developing an advanced test dummy, there might not be a need to require the use of the Hybrid III in the interim.

The agency recognizes that manufacturers are concerned about obtaining the Hybrid III test dummy and gaining experience with its use prior to the proposed September 1, 1991, date for mandatory use of that test dummy. However, information provided by the manufacturers of the Hybrid III shows that it will take no longer than approximately one year to supply all manufacturers with sufficient quantities of Hybrid III's. This means that manufacturers will have, at a minimum, more than four years to gain experience in using the Hybrid III. In addition, to assist manufacturers in becoming familiar with the Hybrid III, NHTSA has been placing in the rulemaking docket complete information on the agency's research programs using the Hybrid III test dummy in crash and calibration tests. Since manufacturers will have sufficient time to obtain and gain experience with the Hybrid III by September 1, 1991, the agency has decided to mandate use of the Hybrid III as of that date.

As discussed earlier in this notice, the evidence shows that the Hybrid III is more human-like in its responses to impacts than the existing Part 572 test dummy. In addition, the Hybrid III has the capability to measure far more potential injuries than the current test dummy. The agency is taking advantage of that capability by adopting a limitation on chest deflection which will enable NHTSA to measure a

significant source of injury that cannot be measured on the current test dummy. The combination of the better biofidelity and increased injury-measuring capability available with the Hybrid III will enhance vehicle safety.

Adoption of the Hybrid III will not give a competitive advantage to GM, as claimed by some of the commenters, such as Chrysler and Ford. As the developer of the Hybrid III, GM obviously has had more experience with that test dummy than other manufacturers. However, as discussed above, the agency has provided sufficient leadtime to allow all manufacturers to develop sufficient experience with the Hybrid III test dummy. In addition, as discussed in the equivalency section of this notice, there are no data to suggest that it will be easier for GM or other manufacturers to meet the performance requirements of Standard No. 208 with the Hybrid III. Thus GM and other manufacturers using Hybrid III during the phase-in period will not have a competitive advantage over manufacturers using the existing Part 572 test dummy.

Finally, in its comments GM suggested that the agency consider providing manufacturers with an incentive to use the Hybrid III test dummy. GM said that the agency should consider providing manufacturers with extra vehicle credits during the automatic restraint phase-in period for using the Hybrid III. The agency does not believe it is necessary to provide any additional incentive to use the Hybrid III. The mandatory effective date for use of the Hybrid III provides sufficient incentive, since manufacturers will want to begin using the Hybrid III as soon as possible to gain experience with the test dummy before that date.

Optional use of the Hybrid III may begin October 23, 1986. The agency is setting an effective date of less than 180 days to facilitate the efforts of those manufacturers wishing to use the Hybrid III in certifying compliance with the automatic restraint requirements.

Use of Non-instrumented Test Dummies

Ford raised a question about whether the Hybrid III may or must be used for the non-crash performance requirements of Standard No. 208, such as the comfort and convenience requirements of S7.4.3, 7.4.4, and 7.4.5 of the standard. Ford said that manufacturers should be given the option of using either the Part 572 or Hybrid III test dummy to meet the comfort and convenience requirements. The agency agrees that until September 1, 1991, manufacturers should have the option of using either the Part 572 or Hybrid III test dummy. However, since it is important the crash performance requirements and comfort and convenience

requirements be linked together through the use of a single test dummy to measure a vehicle's ability to meet both sets of requirements. Therefore, beginning on September 1, 1991, use of the Hybrid III will be mandatory in determining a vehicle's compliance with any of the requirements of Standard No. 208.

In addition, Ford asked the agency to clarify whether manufacturers can continue to use Part 572 test dummies in the crash tests for Standard Nos. 212, 219, and 301, which only use non-instrumented test dummies to simulate the weight of an occupant. Ford said that the small weight difference and the small difference in seated posture between the two test dummies should have no effect on the results of the testing for Standard Nos. 212, 219, and 301. The agency agrees that use of either test dummy should not affect the test results for those standards. Thus, even after the September 1, 1991, effective date for use of the Hybrid III in the crash and non-crash testing required by Standard No. 208, manufacturers can continue to use, at their option, either the Part 572 or the Hybrid III test dummy in tests conducted in accordance with Standard Nos. 212, 219, and 301.

Economic and Other Impacts

NHTSA has examined the impact of this rulemaking action and determined that it is not major within the meaning of Executive Order 12291 or significant within the meaning of the Department of Transportation's regulatory policies and procedures. The agency has also determined that the economic and other impacts of this rulemaking action are not significant. A final regulatory evaluation describing those effects has been placed in the docket.

In preparing the regulatory evaluation, the agency has considered the comments from several manufacturers that the agency had underestimated the costs associated with using the Hybrid III. Ford said that the cost estimates contained in the April 1985 notice did not take into account the need to conduct sled tests during development work. Ford said that for 1985, it estimated it will conduct 500 sled tests requiring 1000 test dummy applications. Ford also said that NHTSA's estimate of the test dummy inventory needed by a manufacturer is low. It said that it currently has an inventory of 31 Part 572 test dummies and would expect to need a similar inventory of Hybrid III's. In addition, Ford said that NHTSA's incremental cost estimate of \$3,000 per test dummy was low. It said that the cost for monitoring the extra data generated by the Hybrid III is \$2,700. Ford said that it also would have to incur costs due to upgrading its data acquisition and data processing equipment.

GM said that NHTSA's estimate of a 30-test useful life for the test dummy substantially underestimates its actual useful life, assuming the test dummy is repaired periodically. It said that some of its dummies have been used in more than 150 tests. GM also said that the agency's assumption that a large manufacturer conducts testing requiring approximately 600 dummy applications each year underestimates the actual number of tests conducted. In 1984, GM said it conducted sled and barrier tests requiring 1179 dummy applications. GM said that the two underestimates, in effect, cancel each other out, since the dummies are usable for at least five times as many tests, but they are used four times as often.

Mitsubishi said that its incremental cost per vehicle is \$7 rather than 40 cent as estimated by the agency. Mitsubishi explained the reason for this difference is that the price of an imported Hybrid III is approximately two times the agency estimate and its annual production is about one-tenth of the amount used in the agency estimate. Volvo also said the agency had underestimated the incremental cost per vehicle. Volvo said it conducts approximately 500-600 test dummy applications per year in sled and crash testing, making the incremental cost in the range of \$15-18 per vehicle based on its export volume to the United States.

NHTSA has re-examined the costs associated with the Hybrid III test dummy. The basic Hybrid III dummy with the instrumentation required by this final rule costs \$35,000 or approximately \$16,000 more than the existing 572 test dummy. Assuming a useful life for the test dummy of 150 tests, the total estimated incremental capital cost is approximately \$107 per dummy test.

To determine the incremental capital cost per test, the agency had to estimate the useful life of the Hybrid III. Based on NHTSA's test experience, the durability of the existing Part 572 test dummy and the Hybrid III test dummy is essentially identical with the exception of the Hybrid III ribs. Because the Hybrid III dummy chest was developed to simulate human chest deflection, the ribs had to be designed with much more precision to reflect human impact response. This redesign uses less metal and consequently they are more susceptible to damage during testing than the Part 572 dummy.

As discussed previously, GM estimates that the Hybrid III ribs can be used in severe unrestrained testing approximately 17 times before the ribs or the

damping material needs replacement. In addition, GM's experience shows that the Hybrid III can withstand as many as 150 test applications as long as occasional repairs are made. Ford reported at the previously cited MVMA meeting that one of its belt-restrained Hybrid III test dummies underwent 35 crash tests without any degradation. Clearly, the estimated useful life of the test dummy is highly dependent on the type of testing, restrained or unrestrained, it is used for. Based on its own test experience and the experience of Ford and GM cited above, the agency has decided to use 30 applications as a conservative estimate of the useful life of the ribs. Assuming a life of 30 tests before a set of ribs must be replaced at a cost of approximately \$2,000, the incremental per test cost is approximately \$70.

The calibration tests for the Hybrid III test dummy have been simplified from the original specification proposed in the April 1985 notice. The Transportation Research Center of Ohio, which does calibration testing of the Hybrid III for the agency, vehicle manufacturers and others estimates the cost of the revised calibration tests is \$1528. This is \$167 less than the calibration cost for the existing Part 572 test dummy.

Numerous unknown variables will contribute to the manufacturers' operating expense, such as the cost of new or modified test facilities or equipment to maintain the more stringent temperature range of 69° F to 72° F for test dummies, and capital expenditures for lab calibration equipment, signal conditioning equipment, data processing techniques and capabilities, and additional personnel. Obviously, any incremental cost for a particular manufacturer to certify compliance with the automatic restraint requirements of Standard No. 208 will also depend on the extent and nature of its current test facilities and the size of its developmental and new vehicle test programs.

In addition to the costs discussed above, Peugeot raised the issue of a manufacturer's costs increasing because the proposed number of injury measurements made on the Hybrid III will increase the number of tests that must be repeated because of lost data. Since the agency is only adding one additional measurement, chest deflection, for the Hybrid III the number of tests that will have to be repeated due to lost data should not be substantially greater for the Hybrid III than for the Part 572.

NHTSA has determined that it is in the public interest to make the optional use of the Hybrid III test dummy effective in 90 days. This will allow manufacturers time to order the new test dummy to use in their new vehicle development work. Mandatory use of the Hybrid III does not begin until September 1, 1991.

In consideration of the foregoing, Part 572, *Anthropomorphic Test Dummies*, and Part 571.208, *Occupant Crash Protection*, of Title 49 of the Code of Federal Regulations is amended as follows:

Part 572—[AMENDED]

1. The authority citation for Part 572 is amended to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, and 1407; delegation of authority at 49 CFR 1.50.

2. A new Subpart E is added to Part 572 to read as follows:

Subpart E—Hybrid III Test Dummy

§ 572.30 *Incorporated materials*

§ 572.31 *General description*

§ 572.32 *Head*

§ 572.33 *Neck*

§ 572.34 *Thorax*

§ 572.35 *Limbs*

§ 572.36 *Test conditions and instrumentation*

§ 572.30 *Incorporated Materials*

(a) The drawings and specifications referred to in this regulation that are not set forth in full are hereby incorporated in this part by reference. The Director of the Federal Register has approved the materials incorporated by reference. For materials subject to change, only the specific version approved by the Director of the Federal Register and specified in the regulation are incorporated. A notice of any change will be published in the *Federal Register*. As a convenience to the reader, the materials incorporated by reference are listed in the Finding Aid Table found at the end of this volume of the Code of Federal Regulations.

(b) The materials incorporated by reference are available for examination in the general reference section of Docket 74-14, Docket Section, National Highway Traffic Safety Administration, Room 5109, 400 Seventh Street, S.W., Washington, DC 20590. Copies may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, N.W., Washington, DC 20005 ((202) 628-6667). The drawings and specifications are also on file in the reference library of the Office of the Federal Register, National Archives and Records Administration, Washington, D.C.

§ 572.31 *General description*

(a) The Hybrid III 50th percentile size dummy consists of components and assemblies specified in the Anthropomorphic Test Dummy drawing and specifications package which consists of the following six items:

(1) The Anthropomorphic Test Dummy Parts List, dated July 15, 1986, and containing 13 pages, and a Parts List Index, dated April 26, 1986, containing 6 pages,

(2) A listing of Optional Hybrid III Dummy Transducers, dated April 22, 1986, containing 4 pages,

(3) A General Motors Drawing Package identified by GM drawing No. 78051-218, revision P and subordinate drawings,

(4) Disassembly, Inspection, Assembly and Limbs Adjustment Procedures for the Hybrid III dummy, dated July 15, 1986,

(5) Sign Convention for the signal outputs of Hybrid II dummy transducers, dated July 15, 1986,

(6) Exterior Dimensions of the Hybrid III dummy, dated July 15, 1986.

(b) The dummy is made up of the following component assemblies:

<i>Drawing Number</i>	<i>Revision</i>
78051-61 Head Assembly—Complete—	(T)
78051-90 Neck Assembly—Complete—	(A)
78051-89 Upper Torso Assembly—Complete—	(I)
78051-70 Lower Torso Assembly—Without Pelvic Instrumentation Assembly, Drawing No. 78051-59	(C)
86-5001-001 Leg Assembly—Complete (LH)—	
86-5001-002 Leg Assembly—Complete (RH)—	
78051-123 Arm Assembly—Complete (LH)—	(D)
78051-124 Arm Assembly—Complete (RH)—	(D)

(c) Any specifications and requirements set forth in this part supercede those contained in General Motors Drawing No. 78051-218, revision P.

(d) Adjacent segments are joined in a manner such that throughout the range of motion and also under crash-impact conditions, there is no contact between metallic elements except for contacts that exist under static conditions.

(e) The weights, inertial properties and centers of gravity location of component assemblies shall conform to those listed in drawing 78051-338, revision S.

(f) The structural properties of the dummy are such that the dummy conforms to this part in every respect both before and after being used in vehicle test specified in Standard No. 208 of this Chapter (§ 571.208).

§ 572.32 Head

(a) The head consists of the assembly shown in the drawing 78051-61, revision T, and shall conform to each of the drawings subtended therein.

(b) When the head (drawing 78051-61, revision T) with neck transducer structural replacement (drawing 78051-383, revision F) is dropped from a height of 14.8 inches in accordance with paragraph (c) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the head in accordance with 572.36(c) shall not be less than 225g, and not more than 275g. The acceleration/time curve for the test shall be unimodal to the extent that oscillations occurring after the main acceleration pulse are less than ten percent (zero to peak) of the main pulse. The lateral acceleration vector shall not exceed 15g (zero to peak).

(c) *Test Procedure.* (1) Soak the head assembly in a test environment at any temperature between 66° F to 78° F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(2) Clean the head's skin surface and the surface of the impact plate with 1,1,1 Trichlorethane or equivalent.

(3) Suspend the head, as shown in Figure 19, so that the lowest point on the forehead is 0.5 inches below the lowest point on the dummy's nose when the midsagittal plane is vertical.

(4) Drop the head from the specified height by means that ensure instant release onto a rigidly supported flat horizontal steel plate, which is 2 inches thick and 2 feet square. The plate shall have a clean, dry surface and any microfinish of not less than 8 microinches (rms) and not more than 80 microinches (rms).

(5) Allow at least 2 hours between successive tests on the same head.

§ 572.33 Neck

(a) The neck consists of the assembly shown in drawing 78051-90, revision A and conforms to each of the drawings subtended therein.

(b) When the neck and head assembly (consisting of the parts 78051-61, revision T; -84; -90, revision A; -96; -98; -303, revision E; -305; -306; -307, revision X, which has a neck transducer (drawing 83-5001-008) installed in conformance with 572.36(d), is tested in accordance with paragraph (c) of this section, it shall have the following characteristics:

(1) *Flexion* (i) Plane D, referenced in Figure 20, shall rotate, between 64 degrees and 78 degrees, which shall occur between 57 milliseconds (ms) and

64 ms from time zero. In first rebound, the rotation of plane D shall cross 0 degree between 113 ms and 128 ms.

(ii) The moment measured by the neck transducer (drawing 83-5001-008) about the occipital condyles, referenced in Figure 20, shall be calculated by the following formula: $\text{Moment (lbs-ft)} = M_y + 0.02875 \times F_x$ where M_y is the moment measured in lbs-ft by the moment sensor of the neck transducer and F_x is the force measure measured in lbs by the x axis force sensor of the neck transducer. The moment shall have a maximum value between 65 lbs-ft and 80 lbs-ft occurring between 47 ms and 58 ms, and the positive moment shall decay for the first time to 0 lb-ft between 97 ms and 107 ms.

(2) *Extension* (i) Plane D, referenced in Figure 21, shall rotate between 81 degrees and 106 degrees, which shall occur between 72 and 82 ms from time zero. In first rebound, the rotation of plane D shall cross 0 degree between 147 and 174 ms.

(ii) The moment measured by the neck transducer (drawing 83-5001-008) about the occipital condyles, referenced in Figure 21, shall be calculated by the following formula: $\text{Moment (lbs-ft)} = M_y + 0.02875 \times F_x$ where M_y is the moment measured in lbs-ft by the moment sensor of the neck transducer and F_x is the force measure measured in lbs by the x axis force sensor of the neck transducer. The moment shall have a minimum value between -39 lbs-ft and -59 lbs-ft, which shall occur between 65 ms and 79 ms., and the negative moment shall decay for the first time to 0 lb-ft between 120 ms and 148 ms.

(3) Time zero is defined as the time of contact between the pendulum striker plate and the aluminum honeycomb material.

(c) *Test Procedure.* (1) Soak the test material in a test environment at any temperature between 69 degrees F to 72 degrees F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(2) Torque the jamnut (78051-64) on the neck cable (78051-301, revision E) to 1.0 lbs-ft \pm .2 lbs-ft.

(3) Mount the head-neck assembly, defined in paragraph (b) of this section, on a rigid pendulum as shown in Figure 22 so that the head's midsagittal plane is vertical and coincides with the plane of motion of the pendulum's longitudinal axis.

(4) Release the pendulum and allow it to fall freely from a height such that the tangential velocity at the pendulum accelerometer centerline at the instance of contact with the honeycomb is 23.0 ft/sec \pm 0.4 ft/sec. for flexion testing and 19.9 ft/sec \pm 0.4 ft/sec. for extension testing. The pendulum deceleration vs. time pulse for flexion testing shall

conform to the characteristics shown in Table A and the decaying deceleration-time curve shall first cross 5g between 34 ms and 42 ms. The pendulum deceleration vs. time pulse for extension testing shall conform to the characteristics shown in Table B and the decaying deceleration-time curve shall cross 5g between 38 ms and 46 ms.

Table A
Flexion Pendulum Deceleration vs. Time Pulse

<i>Time (ms)</i>	<i>Flexion deceleration level (g)</i>
10.....	22.50-27.50
20.....	17.60-22.60
30.....	12.50-18.50
Any other time above 30 ms.....	29 maximum

Table B
Extension Pendulum Deceleration vs. Time Pulse

<i>Time (ms)</i>	<i>Extension deceleration level (g)</i>
10.....	17.20-21.20
20.....	14.00-19.00
30.....	11.00-16.00
Any other time above 30 ms.....	22 maximum

(5) Allow the neck to flex without impact of the head or neck with any object during the test.

§ 572.34 *Thorax*

(a) The thorax consists of the upper torso assembly in drawing 78051-89, revision I and shall conform to each of the drawings subtended therein.

(b) When impacted by a test probe conforming to S572.36(a) at 22 fps \pm .40 fps in accordance with paragraph (c) of this section, the thorax of a complete dummy assembly (78051-218, revision P) with left and right shoes (78051-294 and -295) removed, shall resist with the force measured by the test probe from time zero of 1162.5 pounds \pm 82.5 pounds and shall have a sternum displacement measured relative to spine of 2.68 inches \pm .18 inches. The internal hysteresis in each impact shall be more than 69% but less than 85%. The force measured is the product of pendulum mass and deceleration. Time zero is defined as the time of first contact between the upper thorax and pendulum face.

(c) *Test procedure.* (1) Soak the test dummy in an environment with a relative humidity from 10% to 70% until the temperature of the ribs of the test dummy have stabilized at a temperature between 69° F and 72° F.

(2) Seat the dummy without back and arm supports on a surface as shown in Figure 23.

(3) Place the longitudinal centerline of the test probe so that it is .5 \pm .04 in. below the horizontal centerline of the No. 3 Rib (reference drawing number 79051-64, revision A-M) as shown in Figure 23.

(4) Align the test probe specified in S572.36(a) so that at impact its longitudinal centerline coincides within .5 degree of a horizontal line in the dummy's midsagittal plane.

(5) Impact the thorax with the test probe so that the longitudinal centerline of the test probe falls within 2 degrees of a horizontal line in the dummy midsagittal plane at the moment of impact.

(6) Guide the probe during impact so that it moves with no significant lateral, vertical, or rotational movement.

(7) Measure the horizontal deflection of the sternum relative to the thoracic spine along the line established by the longitudinal centerline of the probe at the moment of impact, using a potentiometer (ref. drawing 78051-317, revision A) mounted inside the sternum as shown in drawing 78051-89, revision I.

(8) Measure hysteresis by determining the ratio of the area between the loading and unloading portions of the force deflection curve to the area under the loading portion of the curve.

§572.35 *Limbs*

(a) The limbs consist of the following assemblies: leg assemblies 86-5001-001 and -002 and arm assemblies 78051-123, revision D, and -124, revision D, and shall conform to the drawings subtended therein.

(b) When each knee of the leg assemblies is impacted by the pendulum defined in S572.36(b) in accordance with paragraph (c) of this section at 6.9 ft/sec \pm .10 ft/sec., the peak knee impact force, which is a product of pendulum mass and acceleration, shall have a minimum value of not less than 996 pounds and a maximum value of not greater than 1566 pounds.

(c) *Test Procedure.* (1) The test material consists of leg assemblies (86-5001-001) left and (-002) right with upper leg assemblies (78051-46) left and

(78051-47) right removed. The load cell simulator (78051-319, revision A) is used to secure the knee cap assemblies (79051-16, revision B) as shown in Figure 24.

(2) Soak the test material in a test environment at any temperature between 66° F to 78° F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(3) Mount the test material with the leg assembly secured through the load cell simulator to a rigid surface as shown in Figure 24. No contact is permitted between the foot and any other exterior surfaces.

(4) Place the longitudinal centerline of the test probe so that at contact with the knee it is colinear within 2 degrees with the longitudinal centerline of the femur load cell simulator.

(5) Guide the pendulum so that there is no significant lateral, vertical or rotational movement at time zero.

(6) Impact the knee with the test probe so that the longitudinal centerline of the test probe at the instant of impact falls within .5 degrees of a horizontal line parallel to the femur load cell simulator at time zero.

(7) Time zero is defined as the time of contact between the test probe and the knee.

§ 572.36 *Test conditions and instrumentation*

(a) The test probe used for thoracic impact tests is a 6 inch diameter cylinder that weighs 51.5 pounds including instrumentation. Its impacting end has a flat right angle face that is rigid and has an edge radius of 0.5 inches. The test probe has an accelerometer mounted on the end opposite from impact with its sensitive axis colinear to the longitudinal centerline of the cylinder.

(b) The test probe used for the knee impact tests is a 3 inch diameter cylinder that weighs 11 pounds including instrumentation. Its impacting end has a flat right angle face that is rigid and has an edge radius of 0.2 inches. The test probe has an accelerometer mounted on the end opposite from impact with its sensitive axis colinear to the longitudinal centerline of the cylinder.

(c) Head accelerometers shall have dimensions, response characteristics and sensitive mass locations specified in drawing 78051-136, revision A or its equivalent and be mounted in the head as shown in drawing 78051-61, revision T, and in the assembly shown in drawing 78051-218, revision D.

(d) The neck transducer shall have the dimensions, response characteristics, and sensitive axis

locations specified in drawing 83-5001-008 or its equivalent and be mounted for testing as shown in drawing 79051-63, revision W, and in the assembly shown in drawing 78051-218, revision P.

(e) The chest accelerometers shall have the dimensions, response characteristics, and sensitive mass locations specified in drawing 78051-136, revision A or its equivalent and be mounted as shown with adaptor assembly 78051-116, revision D, for assembly into 78051-218, revision L.

(f) The chest deflection transducer shall have the dimensions and response characteristics specified in drawing 78051-342, revision A or equivalent, and be mounted in the chest deflection transducer assembly 87051-317, revision A, for assembly into 78051-218, revision L.

(g) The thorax and knee impactor accelerometers shall have the dimensions and characteristics of Endevco Model 7231c or equivalent. Each accelerometer shall be mounted with its sensitive axis colinear with the pendulum's longitudinal centerline.

(h) The femur load cell shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing 78051-265 or its equivalent and be mounted in assemblies 78051-46 and -47 for assembly into 78051-218, revision L.

(i) The outputs of acceleration and force-sensing devices installed in the dummy and in the test apparatus specified by this part are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211, JUNE 1980, "Instrumentation for Impact Tests," with channel classes as follows:

- (1) Head acceleration—Class 1000
- (2) Neck force—Class 60
- (3) Neck pendulum acceleration—Class 60
- (4) Thorax and thorax pendulum acceleration—Class 180
- (5) Thorax deflection—Class 180
- (6) Knee pendulum acceleration—Class 600
- (7) Femur force—Class 600

(j) Coordinate signs for instrumentation polarity conform to the sign convention shown in the document incorporated by § 572.31(a)(5).

(k) The mountings for sensing devices shall have no resonance frequency within range of 3 times the frequency range of the applicable channel class.

(l) Limb joints are set at lg, barely restraining the weight of the limb when it is extended horizontally. The force required to move a limb segment shall not exceed 2g throughout the range of limb motion.

(m) Performance tests of the same component, segment, assembly, or fully assembled dummy are separated in time by a period of not less than 30 minutes unless otherwise noted.

(n) Surfaces of dummy components are not painted except as specified in this part or in drawings subtended by this part. PART 571 [Amended]

2. The authority citation for Part 571 continues to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

3. Section S5 of Standard No. 208 (49 CFR 571.208) is amended by revising S5.1 to read as follows:

§ 571.208 [Amended]

S5. *Occupant crash protection requirements.*

S5.1 Vehicles subject to S5.1 and manufactured before September 1, 1991, shall comply with either, at the manufacturer's option, 5.1(a) or (b). Vehicles subject to S5.1 and manufactured on or after September 1, 1991, shall comply with 5.1(b).

(a) Impact a vehicle traveling longitudinally forward at any speed, up to and including 30 mph, into a fixed collision barrier that is perpendicular to the line of travel of the vehicle, or at any angle up to 30 degrees in either direction from the perpendicular to the line of travel of the vehicle under the applicable conditions of S8. The test dummy specified in S8.1.8.1 placed at each front outboard designated seating position shall meet the injury criteria of S6.1.1, 6.1.2, 6.1.3, and 6.1.4.

(b) Impact a vehicle traveling longitudinally forward at any speed, up to and including 30 mph, into a fixed collision barrier that is perpendicular to the line of travel of the vehicle, or at any angle up to 30 degrees in either direction from the perpendicular to the line of travel of the vehicle, under the applicable conditions of S8. The test dummy specified in S8.1.8.2 placed at each front outboard designated seating position shall meet the injury criteria of S6.2.1, 6.2.2, 6.2.3, 6.2.4, and 6.2.5.

3. Section S5.2 of Standard No. 208 is revised to read as follows:

S5.2 Lateral moving barrier crash.

S5.2.1 Vehicles subject to S5.2 and manufactured before September 1, 1991, shall comply with either, at the manufacturer's option, 5.2.1(a) or (b). Vehicles subject to S5.2 and manufactured on or after September 1, 1991, shall comply with 5.2.1(b).

(a) Impact a vehicle laterally on either side by a barrier moving at 20 mph under the applicable

conditions of S8. The test dummy specified in S8.1.8.1 placed at the front outboard designated seating position adjacent to the impacted side shall meet the injury criteria of S6.1.2 and S6.1.3.

(b) When the vehicle is impacted laterally under the applicable conditions of S8, on either side by a barrier moving at 20 mph, with a test device specified in S8.1.8.2, which is seated at the front outboard designated seating position adjacent to the impacted side, it shall meet the injury criteria of S6.2.2, and S6.2.3.

4. Section S5.3 of Standard No. 208 is revised to read as follows:

S5.3 *Rollover* Subject a vehicle to a rollover test under the applicable condition of S8 in either lateral direction at 30 mph with either, at the manufacturer's option, a test dummy specified in S8.1.8.1 or S8.1.8.2, placed in the front outboard designated seating position on the vehicle's lower side as mounted on the test platform. The test dummy shall meet the injury criteria of either S6.1.1 or S6.2.1.

5. Section S6 of Standard No. 208 is revised to read as follows:

S6. *Injury Criteria*

S6.1 Injury criteria for the Part 572, Subpart B, 50th percentile Male Dummy.

S6.1.1 All portions of the test dummy shall be contained within the outer surfaces of the vehicle passenger compartment throughout the test.

S6.1.2 The resultant acceleration at the center of gravity of the head shall be such that the expression:

$$\left[\frac{1}{t_2 - t_1} \int_{t_1}^{t_2} a dt \right]^{2.5} t_2 - t_1$$

shall not exceed 1,000, where *a* is the resultant acceleration expressed as a multiple of *g* (the acceleration of gravity), and *t*₁ and *t*₂ are any two points during the crash.

S6.1.3 The resultant acceleration at the center of gravity of the upper thorax shall not exceed 60 *g*'s, except for intervals whose cumulative duration is not more than 3 milliseconds.

S6.1.4 The compressive force transmitted axially through each upper leg shall not exceed 2250 pounds.

S6.2 *Injury criteria for the Part 572, Subpart E, Hybrid III Dummy*

S6.2.1 All portions of the test dummy shall be contained within the outer surfaces of the vehicle passenger compartment throughout the test.

S6.2.2 The resultant acceleration at the center of gravity of the head shall be such that the expression:

$$\left[\frac{1}{t_2 - t_1} \int_{t_1}^{t_2} a dt \right]^{2.5} t_2 - t_1$$

shall not exceed 1,000, where a is the resultant acceleration expressed as a multiple of g (the acceleration of gravity), and t_1 and t_2 are any two point during the crash.

S6.2.3 The resultant acceleration calculated from the thoracic instrumentation shown in drawing 78051-218, revision L, incorporated by reference in Part 572, Subpart E of this Chapter, shall not exceed 60g's, except for intervals whose cumulative duration is not more than 3 milliseconds.

S6.2.4 Compression deflection of the sternum relative to spine, as determined by instrumentation shown in drawing 78051-317, revision A, incorporated by reference in Part 572, Subpart E of this Chapter, shall not exceed 2 inches for loadings applied through any impact surfaces except for those systems which are gas inflated and provide distributed loading to the torso during a crash. For gas-inflated systems which provide distributive loading to the torso, the thoracic deflection shall not exceed 3 inches.

S6.2.5 The force transmitted axially through each upper leg shall not exceed 2250 pounds.

6. Section S8.1.8 of Standard No. 208 is revised to read as follows:

S8.1.8 *Anthropomorphic test dummies*

S8.1.8.1 The anthropomorphic test dummies used for evaluation of occupant protection systems manufactured pursuant to applicable portions of paragraphs S4.1.2, 4.1.3, and S4.1.4 shall conform to the requirements of Subpart B of Part 572 of this Chapter.

S8.1.8.2 Anthropomorphic test devices used for the evaluation of occupant protection systems manufactured pursuant to applicable portions of paragraphs S4.1.2, S4.1.3, and S4.1.4 shall conform to the requirements of Subpart E of Part 572 of this Chapter.

7. Section S8.1.9 of Standard No. 208 is revised to read as follows:

S8.1.9.1 Each Part 572, Subpart B, test dummy specified in S8.1.8.1 is clothed in formfitting cotton stretch garments with short sleeves and midcalf length pants. Each foot of the test dummy is equipped with a size 11EE shoe which meets the config-

uration size, sole, and heel thickness specifications of MIL-S-131192 and weighs 1.25 ± 0.2 pounds.

S8.1.9.2 Each Part 572, Subpart E, test dummy specified in S8.1.8.2 is clothed in formfitting cotton stretch garments with short sleeves and midcalf length pants specified in drawings 78051-292 and -293 incorporated by reference in Part 572, Subpart E, of this Chapter, respectively or their equivalents. A size 11EE shoe specified in drawings 78051-294 (left) and 78051-295 (right) or their equivalents is placed on each foot of the test dummy.

8. Section S8.1.13 of Standard No. 208 is revised to read as follows:

S8.1.13 *Temperature of the test dummy*

S8.1.13.1 The stabilized temperature of the test dummy specified by S8.1.8.1 is at any level between 66 degrees F and 78 degrees F.

S8.1.13.2 The stabilized temperature of the test dummy specified by S8.1.8.2 is at any level between 69 degrees F and 72 degrees F.

9. A new fourth sentence is added to section S8.1.3 to read as follows:

Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position.

10. A new section S11 is added to read as follows:

S11. *Positioning Procedure for the Part 572 Subpart E Test Dummy*

Position a test dummy, conforming to Subpart E of Part 572 of this Chapter, in each front outboard seating position of a vehicle as specified in S11.1 through S11.6. Each test dummy is restrained in accordance with the applicable requirements of S4.1.2.1, 4.1.2.2 or S4.6.

S11.1 *Head.* The transverse instrumentation platform of the head shall be horizontal within $\frac{1}{2}$ degree.

S11.2 *Arms*

S11.2.1 The driver's upper arms shall be adjacent to the torso with the centerlines as close to a vertical plane as possible.

S11.2.2 The passenger's upper arms shall be in contact with the seat back and the sides of torso.

S11.3 *Hands*

S11.3.1 The palms of the driver test dummy shall be in contact with the outer part of the steering wheel rim at the rim's horizontal centerline. The thumbs shall be over the steering wheel rim and attached with adhesive tape to provide a breakaway force of between 2 to 5 pounds.

S11.3.2 The palms of the passenger test dummy shall be in contact with outside of thigh. The little finger shall be in contact with the seat cushion.

S11.4 *Torso*

S11.4.1 In vehicles equipped with bench seats, the upper torso of the driver and passenger test dummies shall rest against the seat back. The midsagittal plane of the driver dummy shall be vertical and parallel to the vehicle's longitudinal centerline, and pass through the center of the steering wheel rim. The midsagittal plane of the passenger dummy shall be vertical and parallel to the vehicle's longitudinal centerline and the same distance from the vehicle's longitudinal centerline as the midsagittal plane of the driver dummy.

S11.4.2 In vehicles equipped with bucket seats, the upper torso of the driver and passenger test dummies shall rest against the seat back. The midsagittal plane of the driver and the passenger dummy shall be vertical and shall coincide with the longitudinal centerline of the bucket seat.

S11.4.3 *Lower torso*

S11.4.3.1 *H-point.* The H-point of the driver and passenger test dummies shall coincide within $\frac{1}{2}$ inch in the vertical dimension and $\frac{1}{2}$ inch in the horizontal dimension of a point $\frac{1}{4}$ inch below the position of the H-point determined by using the equipment and procedures specified in SAE J826 (Apr 80) except that the length of the lower leg and thigh segments of the H-point machine shall be adjusted to 16.3 and 15.8 inches, respectively, instead of the 50th percentile values specified in Table 1 of SAE J826.

S11.4.3.2 *Pelvic angle.* As determined using the pelvic angle gage (GM drawing 78051-532 incorporated by reference in Part 572, Subpart E, of this chapter) which is inserted into the H-point gaging hole of the dummy, the angle measured from the horizontal on the 3 inch flat surface of the gage shall be $22\frac{1}{2}$ degrees plus or minus $2\frac{1}{2}$ degrees.

S11.5 *Legs.* The upper legs of the driver and passenger test dummies shall rest against the seat cushion to the extent permitted by placement of the feet. The initial distance between the outboard knee clevis flange surfaces shall be 10.6 inches. To the extent practicable, the left leg of the driver dummy and both legs of the passenger dummy shall be in vertical longitudinal planes. Final adjustment to accommodate placement of feet in accordance with S11.6 for various passenger compartment configurations is permitted.

S11.6 *Feet*

S11.6.1 The right foot of the driver test dummy shall rest on the undepressed accelerator with the rearmost point of the heel on the floor surface in the plane of the pedal. If the foot cannot be placed on the accelerator pedal, it shall be positioned perpendicular to the tibia and placed as far forward as possible in the direction of the centerline of the pedal with the rearmost point of the heel resting on the floor surface. The heel of the left foot shall be placed as far forward as possible and shall rest on the floor surface. The left foot shall be positioned as flat as possible on the floor surface. The longitudinal centerline of the left foot shall be placed as parallel as possible to the longitudinal centerline of the vehicle.

S11.6.2 The heels of both feet of the passenger test dummy shall be placed as far forward as possible and shall rest on the floor surface. Both feet shall be positioned as flat as possible on the floor surface. The longitudinal centerline of the feet shall be placed as parallel as possible to the longitudinal centerline of the vehicle.

S11.7 *Test dummy positioning for latchplate access.* The reach envelopes specified in S7.4.4 are obtained by positioning a test dummy in the driver's seat or passenger's seat in its forwardmost adjustment position. Attach the lines for the inboard and outboard arms to the test dummy as described in Figure 3 of this standard. Extend each line backward and outboard to generate the compliance arcs of the outboard reach envelope of the test dummy's arms.

S11.8 *Test dummy positioning for belt contact force.* To determine compliance with S7.4.3 of this standard, position the test dummy in the vehicle in accordance with the requirements specified in S11.1 through S11.6 and under the conditions of S8.1.2 and S8.1.3. Pull the belt webbing three inches from the test dummy's chest and release until the webbing is within 1 inch of the test dummy's chest and measure the belt contact force.

S11.9 *Manual belt adjustment for dynamic testing.* With the test dummy at its designated seating position as specified by the appropriate requirements of S8.1.2, S8.1.3 and S11.1 through S11.6, place the Type 2 manual belt around the test dummy and fasten the latch. Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 2 to 4 pound tension load

to the lap belt. If the belt system is equipped with a tension-relieving device introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer for normal use in the owner's manual for the vehicle. If the belt system is not equipped with a tension-relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor.

Issued on July 21, 1986

Diane K. Steed
Administrator

51 F.R. 26688
July 25, 1986

PREAMBLE TO AN AMENDMENT TO PART 572

Anthropomorphic Test Dummies

[Docket No. 74-14; Notice 54]

ACTION: Final rule; response to petitions for reconsideration.

SUMMARY: In July 1986, this agency published a final rule mandating the use of the Hybrid III test dummy in compliance testing under Standard No. 208 beginning September 1, 1991. That same rule permitted the optional use of the Hybrid III test dummy for compliance testing beginning October 23, 1986. Eleven organizations filed petitions for reconsideration of this rule.

In response to these petitions, the agency is making three significant and several other changes to the final rule published in July 1986. The first of the significant changes is the suspension of the September 1, 1991, date for mandatory use of the Hybrid III test dummy in compliance testing. The mandatory use date is being suspended because, inadvertently, insufficient time was permitted to address the technical questions that may arise through the use of this new test dummy.

The second significant change is the amendment of the thorax deflection requirement to increase the permissible deflection of the Hybrid III thorax (chest) during compliance testing from two to three inches. The thorax deflection limit is being increased because it appears that most 2-point automatic belt designs used in current vehicles would not comply with the previously established two inch thorax deflection limit. The available accident data do not show an increased risk of thorax injuries to occupants of 2-point belt systems, as compared with occupants of 3-point belt systems or air bags. On the other hand, some limited biomechanical data appear to suggest that 2-point belted occupants may suffer chest injuries more frequently than their 3-point belted or air bag restrained counterparts. These inconsistencies between the different data cannot be resolved at the present time. The agency intends to take the necessary steps to obtain sufficient data in this area to arrive at a satisfactory resolution of the inconsistencies. Given the current uncertainties, however, this rule establishes a three inch chest deflection limit for the Hybrid III test dummy. The available data for 2-point and 3-point belt

systems and for air bags indicate that this three inch limit is practicable and meets the need for safety.

The third significant change is a delay until September 1, 1990, in the use of the Hybrid III dummy for compliance testing of vehicles that do not use any restraint system to provide automatic occupant protection. Such restraint systems have generally been called "passive interiors." Up to this point, the agency has established the same chest deflection limit for Hybrid III dummies restrained by safety belts and those that are unrestrained. However, the agency wants to further investigate whether it is appropriate to establish separate chest deflection limits for unrestrained and safety-belt restrained Hybrid III dummies. Additionally, the agency wants to determine if the Hybrid III dummy with a three inch chest deflection limit is equivalent to the older type of test dummy when both are unrestrained. The temporary delay in the use of the Hybrid III test dummy for certain vehicles will provide the agency with sufficient time to determine whether a chest deflection limit lower than three inches should be proposed for unrestrained Hybrid III dummies, and, if so, which lower limit should be proposed.

This notice also makes several other changes to the July 1986 rule in response to the petitions for reconsideration. These are:

1. This notice adjusts the required calibration responses for the dummy's thorax and femur. The thorax force response adjustment is necessary to reflect the characteristics of the dummy's rib cage structure when the ribs are manufactured with new rib damping material. The femur force adjustment narrows the acceptable force response range during calibration. Both of these adjustments will result in more consistently repeatable dummy impact responses during crash testing. NHTSA has made the appropriate adjustments to the drawing and specifications package for the Hybrid III dummy to reflect these changes.

2. This notice makes certain clarifying amendments to Standard No. 208 to permit the use of the Hybrid III test dummy for compliance testing with all the requirements of Standard No. 208 and to permit the use of both types of test dummies in

any Standard No. 208 testing conducted before the use of the Hybrid III becomes mandatory.

EFFECTIVE DATE: The regulatory changes made in response to the petitions for reconsideration are effective on March 17, 1988.

SUPPLEMENTARY INFORMATION:

Background

In December 1983, General Motors (GM) petitioned the agency to amend 49 CFR Part 572, *Anthropomorphic Test Dummies*, to include specifications for the Hybrid III test dummy that GM had developed. GM stated in its petition that the Hybrid III test dummy provides more meaningful information about the occupant protection potential of a vehicle than does the test dummy specified in Subpart B of Part 572. GM also argued that the Hybrid III test dummy's impact responses during a crash are more representative of human responses. Additionally, GM stated that the Hybrid III allows the assessment of more types of potential injuries, with 31 total measurements as opposed to eight measurements with the Part 572 Subpart B test dummy. GM also claimed that the repeatability and reproducibility of the Hybrid III are as good as those of the Subpart B test dummy. In support of these claims, GM submitted numerous documents to the agency.

After evaluating the petition and the supporting documents, NHTSA published a proposal on April 12, 1985 (50 FR 14602). That notice proposed to adopt the Hybrid III test dummy as an alternative to the Part 572 Subpart B test dummy for compliance testing under Standard No. 208, *Occupant Crash Protection* (49 CFR §571.208) until September 1, 1991. After that date, the agency proposed to use only the Hybrid III test dummy for compliance testing under Standard No. 208.

The agency proposed that action because it tentatively concluded that the Hybrid III test dummy appeared to represent an appreciable advance in the state-of-the-art of human simulation. NHTSA was particularly interested in the Hybrid III test dummy because of its apparently superior biofidelity and updated anthropometry, as compared with the Part 572 Subpart B test dummy. Further, because the Hybrid III test dummy has the capability of monitoring almost four times as many injury indicating parameters

as the Subpart B test dummy, it can be used to measure injury producing forces, accelerations, deflections, moments, etc., for areas of the body that are not instrumented in the Subpart B test dummy. For instance, the Hybrid III test dummy has instrumentation capable of measuring injury producing forces experienced by the neck and lower legs. Although these body areas show a high incidence of serious and/or disabling injuries in crashes, the agency cannot make use of the Subpart B test dummy to evaluate the extent of the protection afforded to these body areas by vehicle safety systems. Because of these attributes of the Hybrid III test dummy, NHTSA believed that it should eventually replace the Subpart B test dummy as the tool used to evaluate the protection that vehicles afford occupants during frontal crashes.

The Final Rule

After evaluating the comments on the April 1985 proposal, NHTSA published a final rule adopting the Hybrid III test dummy on July 25, 1986 (51 FR 26688). This final rule made some adjustments to the calibration procedures proposed to be used with the Hybrid III test dummy. The calibration procedures involve a series of static and dynamic tests of the test dummy components to determine whether the responses of the dummy fall within specified ranges. These calibration procedures help ensure that the test dummy has been properly assembled and that the assembled test dummy will give repeatable and reproducible results during crash testing. (Repeatability refers to the ability of the same test dummy to produce the same results when subjected to identical tests. Reproducibility refers to the ability of one test dummy to provide the same results as another test dummy built to the same specifications.)

The preamble to the final rule also stated that the agency had concluded that the two types of test dummies were equivalent; i.e., when both test dummies were restrained by lap/shoulder belts or with air bags, only minimal differences in test results were shown by the two types of dummies. The importance of equivalence is that vehicles, which will pass or fail Standard No. 208 using one type of dummy, will achieve essentially the same result using the other dummy.

The exception to the finding of equivalence occurred for chest acceleration measurements for unrestrained Hybrid III test dummies. The chest acceleration measurements for unrestrained

Hybrid III dummies were consistently lower than the chest acceleration measurements for unrestrained Part 572 Subpart B dummies. If the two test dummies were to be equivalent, some additional measurement of injury producing forces to the chest of the Hybrid III test dummy would have to be recorded to compensate for the lower chest acceleration measurements with this test dummy. Chest injuries generally are caused by excessive loading on the chest, when the chest contacts the restraint system and possibly the steering system, if the occupant is restrained, or the steering system or other passenger compartment components, if the occupant is unrestrained. The agency concluded that a measurement of chest deflection in testing with the Hybrid III test dummy would appropriately compensate for that dummy's lower chest acceleration measurements when it was unrestrained. Therefore, the July 1986 final rule specified a limit on the amount of thorax deflection that could occur with the Hybrid III test dummy, as the means of ensuring equivalence of the two types of test dummies. See 51 FR at 26693-26694.

Having determined that a thorax deflection limit was necessary to ensure equivalence of the two types of test dummies, the obvious question was what that limit should be. The agency began by examining biomedical data on thorax deflection. Excessive chest deflection can produce rib fractures which can impair breathing and inflict serious damage to the internal organs within the perimeter of the chest structure. The agency began by examining test results to compare the measured responses of Hybrid III test dummies and the injuries induced in cadavers under identical impact conditions. Injuries induced in the cadavers were rated on the Abbreviated Injury Scale (AIS). An AIS rating of 1 is a minor injury, while an AIS of 3 is a serious injury. The rated cadaver injuries were then compared with the chest deflection experienced by a Hybrid III test dummy under identical impact conditions.

In tests using a relatively stiff air bag, which was preinflated and not vented, the cadaver sustained an average injury level of AIS 1.5 (minor to moderate), while the Hybrid III test dummy experienced a 2.7 inch chest deflection under the same conditions. NHTSA concluded that these results demonstrated that a system that symmetrically and uniformly distributes impact loads over the entire chest can produce approximately three inches of chest deflection, as measured on the Hybrid III dummy, and still adequately protect an occupant from serious injury.

However, the testing with belt restraints that did not uniformly or symmetrically spread loads over the entire chest and with other protective systems where the impact loads were highly concentrated over a relatively small area suggested that chest deflection in other portions of the chest could be significantly greater than was shown by the centrally mounted chest deflection gauge on the Hybrid III dummy. Accordingly, it appeared reasonable to establish a chest deflection limit of less than three inches to ensure that those restraint systems would provide a level of chest protection comparable to that provided by restraint systems that symmetrically spread the load over the entire chest surface. When evaluating lap/shoulder belts in a laboratory environment, the cadavers had moderate to serious injuries (AIS of 2.6) induced under the same conditions that the Hybrid III experienced chest deflection of 1.6 inches. Additionally, some pendulum tests were conducted for GM. In these tests, blunt, concentrated loads are intended to stimulate unrestrained vehicle occupant impacts into the steering wheel or other interior components. This testing showed that the cadavers had serious chest injuries induced (average AIS of 2.8) under the same impact conditions in which the Hybrid III dummy measured 2.63 inches of chest deflection.

The available biomechanical data on this subject are based on a limited number of cadaver tests that are not large enough to make statistically significant injury projections. While the agency could not and did not rely on these limited biomechanical data *alone* to justify a decision to establish any particular limit for chest deflection, these data did suggest that a limit as low as 1.6 inches of chest deflection should be considered for the Hybrid III test dummy.

In addition to the indications from the biomechanical data that a chest deflection limit of less than three inches should be adopted for impact exposures that provide concentrated loadings over a limited area of the chest, the agency was also concerned that the Hybrid III test dummy could, in many instances, underestimate actual chest deflection. The Hybrid III measures chest deflection by a deflection sensor located near the third rib of the test dummy, on the midsternum of the dummy's chest. NHTSA testing has shown that the Hybrid III's deflection sensor underestimates chest displacement when a load is applied to an area away from the deflection sensor.

The agency recognized the limitations of the biomechanical data when it was considering what chest deflection limit should be established for

restraint systems that can provide concentrated loadings over a limited area of the chest. Given these limitations, NHTSA examined the chest deflection levels that occur with current vehicle restraint systems. To do this, NHTSA examined the crash performance of existing restraint systems in available accident files, such as National Accident Sampling System (NASS) and Fatal Accident Reporting System (FARS). These data showed that existing 2- and 3-point safety belts, when used, offer vehicle occupants a high level of safety protection, including protection against the risk of serious chest injuries. Therefore, the agency determined that the chest deflection limit could safely be set at a level that was compatible with the level of chest deflection that would be experienced in 30 mph tests with existing 2- and 3-point belt designs.

Test data available to the agency at the time of the final rule indicated that the two inch limit could be satisfied by existing designs of 3-point manual belts, 2-point automatic belts, and 3-point manual belts with air bags. For instance, the data available on 3-point manual safety belts in 30 mph frontal impacts with the Hybrid III test dummy showed chest deflections ranging from an average of 0.67 inch in NHTSA car-to-car testing to 1.89 inches in GM sled testing. For the Volkswagen 2-point automatic belts, the data showed chest deflections ranging from 0.79 inch to 1.09 inches in NHTSA testing. Based on these data, the agency concluded that a two inch chest deflection limit was an achievable level for existing restraint system designs.

Thus, the decision to adopt a two inch chest deflection limit for restraint systems that did not generally distribute the load over the entire chest area was based on the following factors:

1. The limited biomechanical data that were available suggested that there was a safety need for a chest deflection limit at a level below three inches;

2. A chest deflection limit below three inches would compensate for the Hybrid III's tendency to underestimate chest deflection when a load is applied to a small area away from the deflection sensor; and

3. Existing 2- and 3-point belt systems could comply with a two inch chest deflection limit, based on the limited testing data available to the agency.

Petitions for Reconsideration

The agency received petitions for reconsideration of this final rule from nine different organizations. Many of the petitions for reconsideration raised issues involving the positioning of the Hybrid III dummy during compliance testing. In its November 23, 1987, final rule establishing dynamic testing requirements for light trucks and light multipurpose passenger vehicles (MPV's) (52 FR 44898), NHTSA permitted the use of Hybrid III test dummies for compliance testing of those vehicle types. The dummy positioning issues that were raised in the petitions for reconsideration of the Hybrid III dummy had to be resolved in that rule, to allow the Hybrid III dummies to be properly positioned during compliance testing. Although that rule addressed only light trucks and MPV's, the positioning problems in those vehicle types are similar to the positioning problems for passenger cars. Accordingly, the dummy positioning procedures set forth therein are applicable to positioning the Hybrid III test dummy in any type of vehicle, including passenger cars. Persons interested in reviewing the agency's response to the Hybrid III test dummy positioning issues raised in the petitions for reconsideration should consult that document. This notice addresses all other issues raised in the petitions for reconsideration of the final rule establishing requirements for the Hybrid III test dummy.

Chest Deflection Limits

The chest deflection limits generated the most requests for reconsideration. Chrysler, Ford, GM, Honda, the Motor Vehicle Manufacturers Association (MVMA), Nissan, Renault, Toyota, Volkswagen, and Volvo all asked for some changes to these requirements. GM stated that it uses a two inch deflection limit as an internal design and performance guide in its development of belt restraint systems. However, GM stated that there is no biomedical basis for such a limit. GM concluded by stating that it believed a two inch chest deflection limit was overly conservative as a mandatory requirement and that a three inch limit would be a more appropriate regulatory requirement.

Toyota stated that the two inch limit was unreasonable. Toyota stated that it has no knowledge of any accidents in which occupants of a Cressida equipped with this automatic belt system have

suffered serious chest injuries. Yet, according to this petitioner, in 30 miles per hour (mph) barrier impact tests using the Hybrid III test dummy, the 2-point automatic belt system installed in its Cressida model causes chest deflections that average 2.3 inches, with a maximum of 2.9 inches. Thus, these vehicles would not comply with the two inch chest deflection limit. Toyota asserted that retention of the two inch chest deflection limit would force it to discontinue offering this 2-point automatic belt system, even though accident data indicate that the system offers effective occupant protection. Toyota urged the agency to increase the chest deflection limit to three inches for all restraint systems. Volkswagen made a similar point with respect to the 2-point automatic belt system installed in its Golf models, as did Chrysler for the 2-point automatic belt systems installed in some of its models.

Volvo stated that the data on which NHTSA had based the two inch deflection limit were inadequate to provide conclusive evidence of biomechanical tolerance levels. Renault requested the agency to amend the chest deflection limit to 2.5 inches until the uncertainties associated with the test data, which were the basis for the two inch limit, are fully resolved. MVMA asked that the two inch limit be suspended until the agency had resolved the issues surrounding this aspect of occupant protection.

Restrained Hybrid III dummies. In response to these petitions, NHTSA has thoroughly re-examined this subject. The agency has no basis for questioning its previous statements that the Hybrid III can underestimate actual chest deflections in certain circumstances. Further, after again reviewing the available biomechanical data, the agency continues to believe those data suggest the need to establish a chest deflection limit for restraint systems that do not evenly distribute the load over the entire thorax surface at some level below three inches.

If the biomechanical data were complete and reliable, the agency could rely on these data alone as the primary support for a particular chest deflection limit somewhere below three inches. However, the currently available biomechanical data are limited. NHTSA believes that it should not rely on these biomechanical data *alone* to support a particular chest deflection limit. Even when the agency's concern about the Hybrid III dummy's propensity to underestimate actual chest deflection in certain situations is combined with the available biomechanical data, the agency

cannot demonstrate at this time that a two inch chest deflection limit is necessary to meet the need for safety.

The most broad-based data source available for examination when establishing a new chest deflection limit is the accident files for the restraint systems currently in production. As noted above, those accident files show that current 2- and 3-point safety belts, when used, afford a high level of protection against serious thorax injuries. When the agency adopted the two inch chest deflection limit, the data available to the agency indicated that existing 2- and 3-point safety belt systems would not have to be redesigned to comply with this requirement. In the case of 2-point automatic belts, the available data consisted of 1982 and 1984 Volkswagen Rabbit tests. This testing showed chest deflections of 1.09 and 1.06 for the Hybrid III dummy at the driver's position, and chest deflections of 0.79 and 0.86 inch for the Hybrid III dummy at the passenger's position. Based on these test results, the agency had no reason to believe that existing 2-point automatic belt systems would have to be redesigned to comply with the two inch chest deflection limit.

However, manufacturers of vehicles with 2-point automatic belt systems submitted new test results as part of their petitions for reconsideration, showing that their existing belt systems do not comply with a two inch chest deflection limit. As noted above, Toyota and Chrysler submitted test results showing that their models with 2-point automatic belt systems would not comply with a two inch chest deflection limit. Most significantly, Volkswagen submitted test data for its 1987 Golf model. This vehicle uses a very similar design of 2-point automatic belts to that which was present in the 1982 and 1984 Rabbit models that were tested by the agency. Volkswagen's testing of this 1987 Golf showed that the Hybrid III test dummies at both the driver and the passenger positions experienced chest deflections of 2.3 inches. These chest deflections are significantly higher than those measured in the NHTSA testing. Both Volkswagen and MVMA alleged in their petitions for reconsideration that a scaling error may account for the large differences in test results for what is essentially the same restraint system. Both petitioners stated that the agency may have improperly converted centimeters to inches. Volkswagen showed that when the NHTSA results were multiplied by 2.54 (the number of centimeters in one inch), the NHTSA and Volkswagen data show very good agreement.

In response to these allegations, NHTSA has begun an investigation of its previous test results. The preliminary conclusion from that investigation is that the discrepancy between the NHTSA and Volkswagen test results cannot be definitely attributed to a data processing scaling error in the NHTSA data. However, it concluded that those previous test results must be regarded as highly suspect.

Subsequent sled tests by NHTSA using Volkswagen Golf interiors produced chest deflections substantially greater than the results of the previous NHTSA crash testing of Volkswagen Rabbits. For example, this subsequent sled testing of a Golf showed a chest deflection of 2.8 inches for the current design of the Golf interior and restraint system. The agency then made several modifications to the Golf interior and restraint system to explore the sensitivity of the parameters that influence the magnitude of measured chest deflection. One of these modifications resulted in a chest deflection of 1.9 inches. However, this modification increased the HIC level to 2362. None of the chest deflections measured in these 11 tests of the Golf were near the level of 1.09 inches measured in the previous NHTSA testing of the Rabbit, and all but the one modification discussed above had chest deflections above two inches.

Additionally, the agency has also conducted several 30 mph frontal impact tests of vehicles equipped with 2-point automatic belts. The Chrysler LeBaron had a chest deflection of 2.35 inches at the driver's position and 2.56 inches at the passenger's position. The Subaru XT had a chest deflection of 2.48 inches at the driver's position and 2.61 inches at the passenger's position. The Toyota Camry had a chest deflection of 1.66 inches at the driver's position and 2.15 inches at the passenger's position. These results likewise are substantially greater than the chest deflection of 1.09 inches measured for the Volkswagen Rabbit in the agency's previous testing.

The subsequent testing by NHTSA and by the manufacturers has not been able to replicate the results of NHTSA's previous testing of 2-point automatic belts. To date, the agency has not been able to identify the source(s) of the discrepancies between current and previous test results. Accordingly, the agency believes that it cannot rely on the chest deflection measurements obtained in that previous round of testing for any purpose until such time as the agency can explain or replicate those results.

Data available to the agency indicate that most of the two point belt systems currently offered and

some three point belt systems could not comply with the two inch chest deflection limit. Moreover, the accident data for vehicles equipped with restraint systems that do not comply with the two inch chest deflection limit do *not show* that persons restrained by these belt systems experience a higher level of chest injuries in crashes than those restrained by belt systems that comply with the two inch chest deflection limit. Given these accident data and the acknowledged limitations of the available biomechanical data, the agency has concluded that it does not have an adequate basis for imposing a two inch chest deflection limit at this time. Accordingly, this notice amends the chest deflection level upward.

The remaining question is what level should be established as the limit for permissible chest deflection. As noted above, agency sled tests have measured a 2.8 inch chest deflection for the Volkswagen Golf. NHTSA vehicle tests measured chest deflections of 2.56 inches in the Chrysler LeBaron and 2.61 inches in the Subaru XT. In one of Toyota's tests, a chest deflection of 2.9 inches was measured in its Cressida model. The agency currently has no field evidence that persons restrained by the restraint systems in these vehicles are exposed to an unacceptable risk of serious chest injuries. Therefore, this notice amends the chest deflection limit for Hybrid III test dummies to specify that the chest deflection shall not exceed three inches for any occupant protection system.

Unrestrained Hybrid III dummies. As noted above, the available accident data suggest that, when the impact forces that produce 2.9 inches of chest deflection in the Hybrid III test dummy are imposed on the human chest by 2-point belts, those forces appear not to expose vehicle occupants to a significant risk of serious chest injury. Similarly, NHTSA has test data showing that, when the forces that produce 2.7 inches of chest deflection in the Hybrid III test dummy are imposed on the human chest by air bags, those forces appear not to expose vehicle occupants to a significant risk of serious chest injury. Accordingly, the agency believes that a three inch chest deflection limit for the Hybrid III test dummy when restrained by safety belts or air bags appears to meet the need for motor vehicle safety.

In both the NPRM and the final rule adopting the Hybrid III test dummy, the agency treated all occupant protection systems other than those that were "gas inflated and provide distributed loading to the torso during a crash" as a single category. This treatment had the effect of establishing the

same chest deflection limit for Hybrid III dummies that were restrained by safety belts and those that were unrestrained. Following this same reasoning, one would infer that since the three inches of chest deflection in the Hybrid III dummy can safely be tolerated by vehicle occupants when those forces are imposed by safety belts, that same level of chest deflection could be safely tolerated when it is imposed on unrestrained vehicle occupants.

However, the accident data and the limited biomechanical data that are currently available for unrestrained occupants raise concerns about the decision to assign the same chest deflection limit to unrestrained and belt-restrained occupants. To respond to these concerns, NHTSA believes that it should reexamine the basis for its decision to establish the same chest deflection limit for belt-restrained and unrestrained Hybrid III test dummies.

Moreover, the preamble to the final rule establishing the Hybrid III test dummy expressed the agency's concerns about the equivalence of the Hybrid III test dummy and the Part 572 Subpart B test dummy, relying solely on data gathered when both types of test dummies were *unrestrained*. The equivalence of the two test dummies is essential if the agency is to ensure that permitting a choice of test dummies will not lead to a degradation in vehicle safety performance. That is, both test dummies must reach similar conclusions in identifying vehicle designs that could cause or increase occupant injury. Based on a review of all available data comparing the test responses of the two dummies, the agency concluded that there was no consistent trend for either test dummy to measure higher or lower Head Injury Criterion (HIC) or femur measurements than the other. With respect to chest acceleration responses, however, the preamble explained the following:

In the case of chest acceleration measurements, the data again do not show higher or lower measurements for either test dummy, except in the case of unrestrained tests. In unrestrained tests, the data show that the Hybrid III generally measures lower chest g's than the existing Part 572 test dummy. This difference in chest g's measurement is one reason why the agency is adopting the additional chest deflection measurement for the Hybrid III, as discussed further below. 51 FR 26688, at 26694; July 25, 1986.

Later, the preamble said:

In summary, the test data indicate the chest acceleration responses between the Hybrid

III and the existing Part 572 test dummy are about the same for restrained occupants, but differ for some cases of unrestrained occupants. This is to be expected since a restraint system would tend to make the two dummies react similarly even though they have different seating postures. The different seating postures, however, would allow unrestrained dummies to impact different vehicle surfaces, which would in most instances produce different responses. Since the Hybrid III dummy is more human-like, it should experience loading conditions that are more human-like than would the existing Part 572 test dummy. One reason that the agency is adding chest deflection criteria [*sic*] for the Hybrid III is that the unrestrained dummy's chest may experience more severe impacts with vehicle structures than would be experienced in an automatic belt or air bag collision. Chest deflection provides an additional measurement of potential injury that may not be detected by the chest acceleration measurement. *Id.*, at 26694-95.

NHTSA's 1986 determination that the Hybrid III and the Part 572 Subpart B test dummies were nevertheless equivalent test devices for unrestrained occupants was based on the addition of a chest deflection limit for unrestrained Hybrid III test dummies. The chest deflection limit was established at two inches, based primarily upon data that had been gathered for *belt-restrained* occupants. However, today's notice has amended the chest deflection limit for Hybrid III test dummies to three inches, based in part on the inadequate support for the two inch value. Despite our acknowledgement of the limitations in the support for the two inch value, NHTSA is also concerned that none of the limited available data indicate that a three inch chest deflection limit for *unrestrained* Hybrid III test dummies is the correct value to make the Hybrid III test dummy equivalent to the Part 572 Subpart B test dummy.

Given the limitations of the available data to support any particular chest deflection value for unrestrained occupants and the concerns about the equivalence of the Hybrid III and Subpart B test dummies without a two inch chest deflection limit, the agency has concluded that it should not permit the Hybrid III dummy to be used until September 1, 1990, to test vehicles that do not use any restraint systems (such as automatic safety belts or air bags) to provide automatic occupant protection. This period of time will allow the agency to gather and analyze additional data, so

that it can determine whether a chest deflection limit of less than three inches is necessary for unrestrained Hybrid III test dummies, and, if so, what specific limit should be proposed.

Furthermore, the agency has already determined that the injury criteria applicable to unrestrained Subpart B test dummies are reasonably correlated to the tolerance limits of unrestrained vehicle occupants. Accordingly, mandating the use of the Subpart B test dummy until September 1, 1990, for compliance testing of vehicles that do not use restraints to provide occupant protection will ensure that any such vehicles afford a level of occupant protection equivalent to that afforded by vehicles that use restraint systems.

The agency would like to make clear that the available data do *not* establish that the three inch chest deflection limit for unrestrained Hybrid III test dummies fails to meet the need for safety or fails to ensure equivalence with the Subpart B test dummy. To repeat, the agency has always treated unrestrained and belt-restrained Hybrid III dummies as a single category for the purposes of chest deflection throughout this rulemaking. If the agency were to continue following this course, there would be no reason for the temporary delay in the use of the Hybrid III for certain types of vehicles. However, the accident data and the limited biomechanical data that are available suggest that it would not be appropriate to continue to treat belt-restrained and unrestrained Hybrid III test dummies in a single category for purposes of the chest deflection limit. The agency wants to investigate this subject further, to ensure that the chest deflection limit that is established for unrestrained Hybrid III dummies both meets the need for safety and ensures that these dummies are equivalent to the Subpart B test dummy in similar conditions.

If the agency cannot substantiate its concerns with data by the time this temporary delay in the use of the Hybrid III dummy for some vehicles expires, NHTSA will assume that it is reasonable to continue imposing a single chest deflection limit for belt-restrained and unrestrained Hybrid III dummies. Accordingly, *unless* there is some future rulemaking action in this area, this rule provides that vehicles that do not use any restraint systems to provide occupant protection and that are manufactured on or after September 1, 1990, *may* use the Hybrid III test dummy with the three inch chest deflection limit in Standard No. 208 compliance testing.

The agency is not aware of any manufacturer's

plans to certify a vehicle design as complying with Standard No. 208 without including any automatic restraint system before September 1, 1990. Hence, this temporary delay in the use of the Hybrid III for testing vehicles without any automatic restraint systems should not adversely affect any manufacturer. After this temporary delay has expired, the Hybrid III dummy will be available for compliance testing for any type of occupant protection system a manufacturer may certify as complying with Standard No. 208. This reflects the agency's continuing belief that the Hybrid III test dummy should eventually replace the older Subpart B test dummy as the tool used to evaluate the protection that *all* vehicles afford occupants during frontal crashes, including vehicles that do not use any restraint systems to protect the occupants, because of the Hybrid III's enhanced biofidelity and capability of measuring injury producing forces for areas of the body that are not measured by the Subpart B test dummy.

Mandatory Use Date for Hybrid III

There are a number of questions that are currently unresolved regarding the injury criteria that should be established for the Hybrid III dummy. The following are some of the issues that need to be addressed to develop sound injury criteria for that test dummy:

1. What is the extent of the occupant chest injury problem in real world motor vehicle crashes? How does the problem vary by restraint system type?
2. Is chest deflection a relevant chest injury measure, in addition to chest acceleration, when using the Hybrid III test dummy?
3. What process should be used to correlate laboratory-based test data about chest injuries with the actual accident data for chest injuries?
4. How accurate and valid are the current chest deflection measurement technology and any current technological alternatives for assessing chest injury potential (such as measurements of shoulder belt loading)?
5. To what extent should the performance requirement limiting chest deflection differentiate among the various types of restraint systems?
6. Are the responses of the Hybrid III test dummy adequately repeatable when used to measure the chest deflection of various types of restraint systems?

The available data are inadequate to permit the agency to resolve these questions with a reasonable degree of confidence. Until the agency has a reasonable confidence in its answers to these types of questions, NHTSA believes it would be premature to mandate the use of only this test dummy for compliance testing under Standard No. 208. Accordingly, this notice suspends the mandatory use date for the Hybrid III test dummy. The July 1986 final rule had established September 1, 1991, as the date after which NHTSA would use only the Hybrid III test dummy for its passenger car compliance testing under Standard No. 208.

NHTSA has already initiated further testing of current restraint systems with the Hybrid III test dummy. In addition, the agency intends to broaden its biomechanical data base to fill in the gaps in the existing data regarding the appropriateness of limits on permissible chest deflection. NHTSA will also attempt to correlate the biomechanical data, Hybrid III chest deflections and/or related injury assessments, and injuries observed in vehicle crashes. Finally, the agency will gather more chest deflection and injury data from vehicle test crashes. After the agency has performed this additional research, it will propose a new mandatory use date for the Hybrid III dummy in Standard No. 208 compliance testing.

In connection with this suspension of the mandatory use date for the Hybrid III dummy in NHTSA's compliance testing, the agency emphasizes that it is aware of the need to allow all manufacturers to obtain and gain experience with using the Hybrid III dummy *before* that test dummy is used for passenger car compliance testing. NHTSA previously determined that at least four years should be allowed for manufacturers to gain experience with the Hybrid III, after those test dummies were commercially available in sufficient quantities; 51 FR 26688, at 26699, July 25, 1986. When proposing a new mandatory use date for the Hybrid III, NHTSA will again specify a leadtime that is adequate to allow all manufacturers to gain experience with the Hybrid III test dummy. Because of the problems that have arisen vis-a-vis chest deflection, NHTSA will not include the time that has elapsed since the July 25, 1986, final rule in its leadtime estimate.

Other Issues Raised in Petitions for Reconsideration

As noted above, all issues related to the Hybrid III positioning procedures that were raised in

these petitions for reconsideration were addressed in the November 23, 1987, final rule establishing dynamic testing requirements for light trucks and light multipurpose passenger vehicles (52 FR 44898). Interested persons are referred to that rule if they wish to review the agency's response to those issues. Besides the issues of the appropriate chest deflection limits, the mandatory use date for the Hybrid III test dummy, and the positioning procedures, the following issues were raised in petitions for reconsideration.

1. Acceptability of the Hybrid III's Design and Performance Specifications.

Ford commented that the performance requirements for Hybrid III test dummies that were specified in the final rule were based on versions of the Hybrid III that reflected the proposed requirements. However, the version of the Hybrid III mandated in the final rule includes new rib damping material, knee sliders, ball-joint ankles, and so forth. Ford asserted that the performance requirements in the final rule may not have taken these changes into account. In addition to the changes noted by Ford, the requirements for the Hybrid III dummy specified in the final rule differed from those proposed with respect to the calibration procedures to be followed.

Ford's assertion that the agency failed to account for the changes made to the test dummy between the proposal and the final rule is not correct. In the case of the new rib damping material, data submitted by GM (Docket No. 74-14-N 45-027) and testing conducted for NHTSA show that the new rib damping material shifts the impact force response calibration limits upward by about six percent, but has little or no effect on the chest deflection characteristics.

The design changes to the knee, lower leg, and ankle were made to reduce the dummy's design complexity which, in turn, should enhance the dummy's reproducibility. The size, mass, mass distribution, and rigidity of the knee, lower leg, and ankle are identical to those which were proposed. Additionally, NHTSA conducted its testing of the Hybrid III dummy's knees with the proposed knees, that is, *without* a shear module. GM conducted its testing of the dummy's knees with the knees adopted in the final rule, that is, *with* the shear module. The agency and GM test results for the knees were nearly identical. These test results show that the addition of the knee shear module did not significantly affect the performance of the knees in testing.

Ford did not offer any explanation of why it believes the changes to the knee, lower leg, and ankle would affect the performance of the Hybrid III dummy during testing. The dummy calibration modifications that were made between the proposal and the final rule simply reduced the complexity and redundancy of the calibration procedures. The available evidence indicates that the only effect on the performance of the Hybrid III as a result of the calibration modifications was to ensure that the test dummy produces more consistent impact responses. Accordingly, NHTSA has not amended the rule in response to Ford's concern.

2. Calibration Requirements.

The calibration procedures involve a series of static and dynamic tests of the test dummy components to determine whether the responses of the dummy fall within specified ranges. These calibration procedures help ensure that the test dummy has been properly assembled and that the assembled test dummy will give repeatable and reproducible results during crash testing.

a. *Thorax calibration response requirements.* In its petition, Ford asked NHTSA to revise the thorax calibration specifications to reflect the characteristics of the rib cage structure with the new United McGill rib damping material. NHTSA changed to this new rib damping material after proposing to use a different rib damping material. Ford also indicated that it has experienced some intermittent difficulties in getting its Hybrid III dummies to comply with the thorax calibration requirements. Honda, Volkswagen, and Toyota also indicated they had experienced problems with getting Hybrid III dummies to meet the thorax calibration requirements. These three manufacturers also indicated that they had difficulties obtaining consistent thorax impact responses. GM urged the agency to revise the midpoint of the thorax resistive forces specified in the calibration requirements upwards by 47.5 pounds. GM stated that this increase would more appropriately reflect the range of acceptable responses for newly manufactured Hybrid III test dummies incorporating the new rib damping material.

The agency believes that these petitions raise a legitimate point. NHTSA confirmed in its own testing and testing conducted by the Hybrid III dummy manufacturers that the rib design specification set forth in the final rule is too broad. The dimensional extremes permissible under that specification result in the test dummy's thorax exhibiting excessive impact response variations.

During the months of November and December 1986, a series of round robin tests were conducted by the two dummy manufacturers and GM to determine what rib steel and damping material combinations would produce the most consistent impact responses, while ensuring biofidelity with the human rib cage. Those tests indicated that a rib steel thickness of 0.080 inch and 0.53 inch thickness of the new rib damping material would yield the most consistent responses and retain biofidelity (NHTSA Docket No. 74-14-N45-027). However, this report also concluded that the calibration force requirements should be adjusted upwards by 80 pounds.

Subsequently, the agency performed a similar series of tests of the rib cages made by both dummy manufacturers to ensure that rib cages that comply with these new specifications could be calibrated within the higher force levels and that rib cages that comply with these new specifications and that are calibrated at the higher force levels yield consistent impact responses. These tests showed that both dummy manufacturers can produce Hybrid III rib cages well within these new specifications and that both manufacturers' rib cages built to these new specifications gave repeatable and reproducible impact responses. (NHTSA Docket No. 74-14-N45-038).

Therefore, in response to the petitions and these test results, §572.34(b) is revised to specify that the thorax shall resist a force of 1242.5 ± 82.5 pounds. This is an increase of the midpoint force level by 80 pounds, or about six percent, over the previously specified level. The specifications for rib steel thickness have been narrowed from 0.078 ± 0.002 inch to 0.080 ± 0.001 inch. The specifications for rib damping material thickness are revised from a range of 0.250-0.625 inch to a range of 0.53 ± 0.03 inch. These changes should ensure that the Hybrid III thorax will yield more consistent impact responses.

b. *Knee impact calibration responses.* Ford stated in its petition for reconsideration that the knee impact calibration should be conducted without the lower leg attached. In support of this request, Ford stated that it is hard to accurately measure the required angle specified for the lower leg, using the new lower leg. Additionally, Ford noted that §572.35(c) requires the use of the new lower leg for knee impact testing, while Figure 24 shows the lower leg that was proposed, but not adopted in the final rule.

The agency was not persuaded by this argument. First, the agency has not encountered any

problems in its testing with rotating the leg to the specified angle and maintaining it in the correct orientation. Ford did not explain what specific difficulties it has encountered. Second, removal of the lower leg would require the dummy to be disassembled during the calibration procedures. This would add time and effort to the calibration process with no corresponding benefit. Hence, this suggested change has not been adopted.

Additionally, Ford's suggestion that Figure 24 needs to be revised to show the version of the lower leg adopted in the final rule is not persuasive. The proposed lower leg included instrumentation on the tibia, while the final rule specified a non-instrumented tibia. There were no other differences in the lower leg. Figure 24 merely shows a lower leg, without identifying any particular lower leg by a part number or the like. The identification of the lower leg in §572.35 correctly identifies the leg assembly with a non-instrumented tibia. Hence, no clarifying amendments are necessary.

Both Ford and GM stated that the knee impact calibration tolerances were overly broad in the final rule. That rule specified a tolerance of ± 22 percent, with an acceptable variation of 44 percent (not less than 996 pounds nor more than 1566, with a midpoint of 1281 pounds). Ford stated that potential test variability would be significantly reduced if the range were narrowed to ± 10 percent (not less than 1153 pounds nor more than 1409 pounds, with the midpoint remaining at 1281 pounds).

Based on a series of round robin tests between NHTSA and itself, GM also stated that the range of acceptable knee impact force requirements is too broad, especially when compared with the typical knee impact responses of newly manufactured Hybrid III dummies. GM recommended, based on the round robin testing, that the calibration performance requirements be modified to be not less than 1060 pounds nor more than 1300 pounds. This would lower the midpoint of the acceptable range to 1180 pounds, and would fall within the ± 10 percent tolerance limit suggested by Ford.

After reconsidering this issue, NHTSA agrees with Ford and GM that the knee impact response range specified in the final rule is too broad. The knee response is governed primarily by the flesh covering the knee. It is relatively simple to control the consistency of this flesh when manufacturing new dummies, and relatively simple to replace the flesh on used dummies, when the response falls

out of the acceptable calibration range. Based on the round robin testing, this notice adopts GM's suggested calibration range of 1060-1300 pounds. NHTSA and GM testing showed that this range is practicable and relatively simple to attain. This narrower range should also yield more repeatable impact responses from the Hybrid III dummies in crashes.

c. *Conforming changes to the drawings and specifications package for the Hybrid III test dummy.* As a part of the amendments to the calibration specifications and to correct errors in the previous package, NHTSA is making some changes to the drawings and specifications package for the Hybrid III test dummy. These changes consist of the following:

- i) a revised rib thickness specification;
- ii) a revised rib damping material specification;
- iii) a revised rib cage assembly specification (to reflect the changes in i) and ii));
- iv) a new abdominal insert specification (to eliminate possible interference by the insert with the lever arm of the chest deflection potentiometer);
- v) a new specification for the pelvis angle during thorax calibration tests; and
- vi) an update of the dummy assembly drawing to reflect these changes.

3. *Chest Temperature Sensitivity.*

The final rule provided that the stabilized temperature of the Hybrid III test dummy is to be between 69° and 72° F for the Standard No. 208 compliance testing. This narrow temperature range is necessary, because testing has shown that the Hybrid III test dummy's measurements of chest deflection and chest acceleration are temperature sensitive. The agency stated that it believed this temperature range was practicable.

Ford stated that its barrier crash facility cannot maintain the specified temperature range. However, Ford recommended that the temperature range could be broadened because "the new rib damping material will probably exhibit somewhat different temperature sensitivity." Based on this assumption, Ford suggested that the temperature range be broadened by 2° to 5° F. As an alternative to broadening the temperature range, Ford suggested that this narrow temperature range be applied only to the dummy components that have shown great temperature sensitivity, and that the dummy components that do not exhibit temperature sensitivity should not be subjected to tight temperature controls.

According to Mazda's petition for reconsidera-

tion, the specified temperature range can only be maintained with separate on-board air conditioning, and such an arrangement would limit the number and variety of tests that were possible. Like Ford, Mazda asserted that the reduced temperature sensitivity of the new rib damping material would permit the agency to expand the permissible temperature range, which Mazda suggested be set at 68° to 76° F. Honda stated that its test facility could control the temperature within 8° F and urged that the permissible temperature range be expanded to an 8° F limit. Volvo stated that the permissible temperature range is practicable, but that it is excessively time consuming and complicated, especially because the test cycle has to be interrupted frequently for various technical reasons unrelated to temperature.

Contrary to the assertions by some of these petitioners, test data available in the public docket (NHTSA Docket No. 74-14-N39-049) show that the new rib damping material has nearly the identical temperature sensitivity as the damping material it replaces. If the agency were to establish a broader temperature range for the testing, it would introduce excessive variability into the compliance test results. The preamble to the final rule discussed at length the several means that the agency and its contractors have used to maintain the temperature within the specified range (51 FR 26692). In addition, in a submission to the docket, General Motors indicated successful use of temperature normalization factors which a manufacturer may want to use to predict response values at the exact specified mean temperature. NHTSA has concluded that the specified temperature range is practicable and necessary to reduce variability of the test results, so this provision has not been changed in this notice.

4. Dummy Durability.

Nissan stated that in 35 mph sled tests, its Hybrid III test dummy had experienced damage to the neck, rib cage, and wrists. Similarly, Volvo stated in its petition for reconsideration that the Hybrid III dummy is less durable in 35 mph impacts than the currently specified test dummy. Additionally, Volvo stated that the thorax needs more frequent replacement in 35 mph impacts than was stated by the agency. In the preamble to the final rule, the agency said that testing had shown that Hybrid III dummies could be used for about 17 crash tests before the ribs must be replaced, and concluded that this level of durability was reasonable. Volvo did not provide any data to support its assertions.

The agency has not examined the durability of the Hybrid III test dummy in 35 mph impact tests. However, the agency does not believe this issue is relevant to the announced use of the Hybrid III test dummy. The final rule specified that the Hybrid III dummy would be used in compliance testing for Standard No. 208, which requires 30 mph impacts. If and when the agency decides to use the Hybrid III dummy in testing for the New Car Assessment Program, which involves 35 mph frontal impacts, the agency will examine the durability of the dummy in 35 mph frontal impacts. Until such a decision is made, NHTSA believes that its resources can be better spent examining other issues related to the Hybrid III test dummy.

During extensive testing in 30 mph impacts conducted for NHTSA and manufacturers, the Hybrid III dummy has demonstrated adequate durability under those conditions (NHTSA Docket No. 74-14-GR-602). To the extent that the durability of the Hybrid III thorax may have been in question, agency testing has shown that Hybrid III test dummies with the new ribs and new rib damping material show minimal changes in force and deflection responses of the thorax after 20 consecutive pendulum impacts. After the 20th impact, the rib cage force and deflection response levels had changed less than 3 percent from the mean responses of the first four impacts. (NHTSA Docket No. 74-14-N45-038). Based on these test results, NHTSA concludes that the Hybrid III test dummy has adequate durability in 30 mph impacts.

5. Changes to the Text of Standard No. 208 and Part 572.

Chrysler, Ford, and MVMA all requested the addition of text to sections S7.4.3-S7.4.5 to permit use of the Hybrid III test dummy to test compliance with the comfort and convenience requirements of S7.4. The final rule establishing dynamic testing requirements for light trucks and multipurpose passenger vehicles has already amended section S7.4.4 to permit the use of either type of test dummy for such testing. This notice makes similar changes to sections S7.4.3 and S7.4.5.

Renault asked that Standard No. 208 be clarified as to the question of whether the two dummy types may be used interchangeably in the driver and/or passenger positions. NHTSA has previously concluded that both dummy types yield equivalent safety assessments of vehicles. Therefore, until the time when only the Hybrid III test dummy is used for compliance testing, NHTSA believes manufacturers should be allowed to base

their certifications of compliance on the use of either type of test dummy in any combination and in any of the designated seating positions. Language to this effect has been added to Standard No. 208.

Ford also suggested some technical changes to clarify certain parts of Standard No. 208 and Part 572. Ford stated that section S6.2.3 of Standard No. 208 currently provides that, "The resultant acceleration calculated from the thoracic instrumentation . . ." Ford stated that the acceleration is calculated from the output signal of the instrumentation, not from the instrumentation itself, and asked that the language be amended to state that. The agency agrees, and has made this change.

Ford stated that the positive and negative signs had been reversed in section 572.33(b)(1)(ii) and (b)(2)(ii). This statement is incorrect. According to the sign convention for the output of the Hybrid III transducers referenced in §572.31(a)(5) and sign conventions adopted by the Society for Automotive Engineers (SAE) Instrumentation Subcommittee, the positive and negative signs were correctly used in the sections questioned by Ford.

Ford also asked that the definition of and references to "time zero" be deleted from §572.34(b), because the agency had deleted the proposed specifications that thorax load be measured 19 milliseconds after impact and that thorax displacement be measured 25 milliseconds after impact. Because of these deletions, Ford asserted that the references and definition of time zero were unnecessary and potentially misleading. NHTSA agrees with this point, and this rule has amended §572.34 to delete the reference to "time zero."

Impact Assessments

1. *Economic and Other Impacts.* NHTSA has considered the impacts of this response to the petitions for reconsideration of the final rule on the Hybrid III test dummy and determined that it is neither "major" within the meaning of Executive Order 12291 nor "significant" within the meaning of the Department of Transportation's regulatory policies and procedures. The several technical corrections made by this notice should not significantly affect the cost estimates set forth in the final regulatory evaluation that was prepared in connection with the final rule on the Hybrid III test dummy. Interested persons are referred to that document, which is available in NHTSA

Docket No. 74-14, Notice 45. Copies of that regulatory evaluation may be obtained by writing to: NHTSA Docket Section, Room 5109, 400 Seventh Street, S.W., Washington, D.C. 20590, or by calling the Docket Section at (202) 366-2992.

The most important changes made in this response to the petitions are the amendment of the chest deflection limit, the delay until September 1, 1990, in using the Hybrid III dummy for compliance testing of vehicles that don't use restraint systems to provide automatic occupant protection, and the suspension of the mandatory effective date for use of the Hybrid III dummy. The amendment of the chest deflection limit for the Hybrid III dummy is necessary to ensure that the adoption of a new compliance test device does not require the redesign of most existing designs of 2-point automatic belt systems. Amending the chest deflection limit to three inches both recognizes the effectiveness of existing 2-point automatic belt systems and avoids unnecessary adverse impacts on any party.

The temporary delay in the use of the Hybrid III test dummy for compliance testing of vehicles that provide automatic occupant protection without using any restraint systems is necessary to allow the agency to further examine its decision to establish the same chest deflection limits for those systems and systems that use either safety belts or air bags. No manufacturer currently certifies any such vehicle design, nor is the agency aware of any plans to certify such a vehicle design before September 1, 1990. Hence, this temporary delay should not adversely affect any person.

The suspension of the effective date for mandatory use of the Hybrid III test dummy is necessary to permit the agency to resolve some remaining technical issues, principally related to chest deflection. The agency does not believe that postponing the mandatory use date for the Hybrid III test will have any adverse impact on any person. Those manufacturers that wish to certify their vehicles on the basis of testing with the Hybrid III test dummy are permitted to do so. Those manufacturers that wish to certify their vehicles on the basis of testing with the Part 572 Subpart B dummy are also permitted to do so. Once the agency has resolved the outstanding technical issues associated with the Hybrid III test dummy, a new date for the mandatory use of that test dummy in NHTSA's compliance testing will be proposed through the rulemaking process. That rulemaking will consider all the impacts associated with a new mandatory use date.

In consideration of the foregoing, 49 CFR §571.208, *Occupant Crash Protection*, and 49 CFR Part 572, *Anthropomorphic Test Dummies*, are amended as follows:

PART 571 — [AMENDED]

1. The authority citation for Part 571 continues to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

§571.208 [Amended]

2. S5 of Standard No. 208 is amended by revising S5.1 and S5.2.1 to read as follows:

S5. *Occupant crash protection requirements.*

S5.1 Vehicles subject to S5.1 shall comply with either S5.1(a) or S5.1(b), or any combination thereof, at the manufacturer's option; except that vehicles manufactured before September 1, 1990, that comply with the requirements of S4.1.2.1(a) by means not including any type of seat belt or inflatable restraint shall comply with S.5.1(a).

(a) * * *

(b) * * *

S5.2. *Lateral moving barrier crash test.*

S5.2.1 Vehicles subject to S5.2 shall comply with either S5.2.1(a) or S5.2.1(b), or any combination thereof, at the manufacturer's option; except that vehicles manufactured before September 1, 1990, that comply with the requirements of S4.1.2.1(c) by means not including any type of seat belt or inflatable restraint shall comply with S5.2.1(a). * * * *

3. S6.2 of Standard No. 208 is amended by revising S6.2.3a and S6.2.4 to read as follows:

S6.2 *Injury Criteria for the Part 572, Subpart E, Hybrid III Test Dummy.* * * * *

S6.2.3 The resultant acceleration calculated from the output of the thoracic instrumentation shown in drawing 78051-218, revision R incorporated by reference in Part 572, Subpart E, of this Chapter shall not exceed 60 g's, except for intervals whose cumulative duration is not more than 3 milliseconds.

S6.2.4 Compression deflection of the sternum relative to the spine, as determined by instrumentation shown in drawing 78051-317, revision A incorporated by reference in Part 572, Subpart E of this Chapter, shall not exceed 3 inches. *****

4. S7.4 of Standard No. 208 is amended by revising S7.4.3 and the first sentence of S7.4.5 to read as follows:

S7.4 *Seat belt comfort and convenience.* * * * *

S7.4.3 *Belt contact force.* Except for manual or automatic seat belt assemblies that incorporate a webbing tension-relieving device, the upper torso webbing of any seat belt assembly shall not exert more than 0.7 pound of contact force when measured normal to and one inch from the chest of an anthropomorphic test dummy, positioned in accordance with either S10 or S11 of this standard in the seating position for which that seat belt assembly is provided, at the point where the centerline of the torso belt crosses the midsagittal line on the dummy's chest. * * * *

S7.4.5 *Retraction.* When tested under the conditions of S8.1.2 and S8.1.3, with anthropomorphic test dummies whose arms have been removed and which are positioned in accordance with either S10 or S11, or any combination thereof, in the front outboard designated seating positions and restrained by the belt systems for those positions, the torso and lap belt webbing of any of those seat belt systems shall automatically retract to a stowed position either when the adjacent vehicle door is in the open position and the seat belt latchplate is released, or, at the option of the manufacturer, when the latchplate is released. * * * *

PART 572 — [AMENDED]

5. The authority citation for Part 572 continues to read as follows:

AUTHORITY: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

6. Section 572.31 is amended by revising paragraphs (a)(1), (a)(3), and (b) to read as follows:

§572.31 *General description.*

(a) The Hybrid III 50th percentile size dummy consists of components and assemblies specified in the Anthropomorphic Test Dummy drawing and specifications package which consists of the following six items:

(1) The Anthropomorphic Test Dummy Parts List, dated December 15, 1987, and containing 13 pages, and a Parts List Index, dated December 15, 1987, containing 8 pages.

* * *

(3) A General Motors Drawing Package identified by GM Drawing No. 78051-218, revision R, and subordinate drawings. * * * *

(b) The dummy is made up of the following component assemblies:

Drawing No.	Revision
78051-61 Head Assembly — Complete	(T)
78051-90 Neck Assembly — Complete	(A)
78051-89 Upper Torso Assembly — Complete	(K)
78051-90 Lower Torso Assembly — Without Pelvic Instrumentation Assembly, Drawing No. 78051-59	(D)
86-5001-001 Leg Assembly — Complete (LH)	(E)
86-5001-002 Leg Assembly — Complete (RH)	(E)
78051-123 Arm Assembly — Complete (LH)	(D)
78051-124 Arm Assembly — Complete (RH)	(D)

7. Section 572.33 is amended by revising paragraph (b)(1)(i) to read as follows:

§572.33 *Neck.* * * * *

(b) * * *

(1) *Flexion* (i) Plane D, referenced in Figure 20, shall rotate between 64 degrees and 78 degrees, which shall occur between 57 milliseconds (ms) and 64 ms from time zero. In first rebound, the rotation of Plane D shall cross 0 degrees between 113 ms and 128 ms. * * * *

8. Section 572.34 is amended by revising paragraphs (a), (b), and (c)(2) to read as follows:

§572.34 *Thorax.*

(a) The thorax consists of the upper torso assembly in drawing 78051-89, revision K, and shall conform to each of the drawings subtended therein.

(b) When impacted by a test probe conforming to §572.36(a) at 22 fps \pm 0.40 fps in accordance with paragraph (c) of this section, the thorax of a complete dummy assembly (78051-218, revision R) with left and right shoes (78051-294 and -295) removed, shall resist with a force of 1242.5 pounds \pm 82.5 pounds measured by the test probe and shall have a sternum displacement measured relative to spine of 2.68 inches \pm 0.18 inches. The internal hysteresis in each impact shall be more than 69 percent but less than 85 percent. The force measured is the product of pendulum mass and deceleration.

(c) *Test procedure.* (1) * * *

(2) Seat the dummy without back and arm supports on a surface as shown in Figure 23, and set the angle of the pelvic bone at 13 degrees plus or minus 2 degrees, using the procedure described in S11.4.3.2 of Standard No. 208 (§571.208 of this Chapter). * * * *

9. Section 572.35(b) is revised to read as follows:

§572.35 *Limbs.*

(a) * * *

(b) When each knee of the leg assemblies is impacted, in accordance with paragraph (c) of this section, at 6.9 ft/sec \pm 0.10 ft/sec by the pendulum defined in §572.36(b), the peak knee impact force, which is a product of pendulum mass and acceleration, shall have a minimum value of not less than 1060 pounds and a maximum value of not more than 1300 pounds. * * * *

10. Section 572.36 is amended by revising paragraphs (b), (c), (d), (e), (f), and (h) to read as follows:

§572.36 *Test conditions and instrumentation.*

* * * *

(b) The test probe used for the knee impact tests is a 3 inch diameter cylinder that weighs 11 pounds including instrumentation. Its impacting end has a flat right angle face that is rigid and has an edge radius of 0.02 inches. The test probe has an accelerometer mounted on the end opposite from impact with its sensitive axis colinear to the longitudinal centerline of the cylinder.

(c) Head accelerometers shall have dimensions, response characteristics, and sensitive mass locations specified in drawing 78051-136, revision A, or its equivalent, and be mounted in the head as shown in drawing 78051-61, revision T, and in the assembly shown in drawing 78051-218, revision R.

(d) The neck transducer shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing 83-5001-008 or its equivalent and be mounted for testing as shown in drawing 79051-63, revision W, and in the assembly shown in drawing 78051-218, revision R.

(e) The chest accelerometers shall have the dimensions, response characteristics, and sensitive mass locations specified in drawing 78051-136, revision A, or its equivalent, and be mounted as shown with adaptor assembly 78051-116, revision D, for assembly into 78051-218, revision R.

(f) The chest deflection transducer shall have the dimensions and response characteristics specified in drawing 78051-342, revision A, or equivalent, and be mounted in the chest deflection transducer assembly 78051-317, revision A, for assembly into 78051-218, revision R. * * * * *

(h) The femur load cell shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing 78051-265 or its equivalent and be mounted in assemblies 78051-46 and -47 for assembly into 78051-218, revision R.
* * * * *

Issued on March 11, 1988

Diane K. Steed
Administrator

53 F.R. 8755
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PART 572—ANTHROPOMORPHIC TEST DUMMIES

Subpart A—General

§ 572.1 Scope. This part describes the anthropomorphic test dummies that are to be used for compliance testing of motor vehicles and motor vehicle equipment with motor vehicle safety standards.

§ 572.2 Purpose. The design and performance criteria specified in this part are intended to describe measuring tools with sufficient precision to give repetitive and correlative results under similar test conditions and to reflect adequately the protective performance of a vehicle, or item or motor vehicle equipment, with respect to human occupants.

§ 572.3 Application. This part does not in itself impose duties or liabilities on any person. It is a description of tools that measure the performance of occupant protection systems required by the safety standards that incorporate it. It is designed to be referenced by, and become a part of, the test procedures specified in motor vehicle safety standards such as Standard No. 208, Occupant Crash Protection.

§ 572.4 Terminology.

(a) The term “dummy,” when used in this Subpart A, refers to any test device described by this part. The term “dummy,” when used in any other subpart of this part, refers to the particular dummy described in that part.

(b) Terms describing parts of the dummy, such as “head,” are the same as names for corresponding parts of the human body.

(c) The term “upright position” means the position of the dummy when it is seated in accordance with the procedures of 572.11(i).

Subpart B—50th Percentile Male

§ 572.5 General description.

(a) The dummy consists of the component assemblies specified in Figure 1, which are described in their entirety by means of approximately 250 drawings and specifications that are grouped by component assemblies under the following nine headings:

SA 150 M070	Right arm assembly
SA 150 M071	Left arm assembly
SA 150 M050	Lumbar spine assembly
SA 150 M060	Pelvis and abdomen assembly
SA 150 M080	Right leg assembly
SA 150 M081	Left leg assembly
SA 150 M010	Head assembly
SA 150 M020	Neck assembly
SA 150 M030	Shoulder-thorax assembly

The drawings and specifications are incorporated in this Part by reference to the nine headings, and are available for examination in Docket 73–8, Room 5109, 400 Seventh Street, S.W., Washington, D.C. 20590. [Copies may be obtained from Rowley-Scher Reprographics, Inc. 1216 K Street, N.W., Washington, D.C. 20005, attention Mr. Allan Goldberg and Mr. Mark Krynski ((202) 628–6667). The drawings and specifications are subject to changes, but any change will be accomplished by appropriate administrative procedures, will be announced by publication in the *Federal Register*, and will be available for examination and copying as indicated in the paragraph. The drawings and specifications are also on file in the reference library of the *Federal Register*, National Archives and Records Services, General Services Administration, Washington, D.C. (50 F.R. 25422—June 19, 1985. Effective: June 19, 1985)]

The drawings and specifications are on file in the reference library of the *Federal Register*, National Archives and Records Service, General Services Administration, Washington, D.C.

(b) Adjacent segments are joined in a manner such that throughout the range of motion and also under crash-impact conditions there is no contact

between metallic elements except for contacts that exist under static conditions.

(c) The structural properties of the dummy are such that the dummy conforms to this part in every respect both before and after being used in vehicle tests specified in Standard No. 208 (§ 571.208).

A specimen of the dummy is available for surface measurements, and access can be arranged through: Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

§ 572.6 Head.

(a) The head consists of the assembly shown as number SA 150 M010 in Figure 1 and conforms to each of the drawings subtended by number SA 150 M010.

(b) When the head is dropped from a height of 10 inches in accordance with paragraph (c) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the head form in accordance with § 572.11(b) shall be not less than 210g, and not more than 260g. The acceleration/time curve for the test shall be unimodal and shall lie at or above the 100g level for an interval not less than 0.9 milliseconds and not more than 1.5 milliseconds. The lateral acceleration vector shall not exceed 10g.

(c) Test procedure:

(1) Suspend the head as shown in Figure 2, so that the lowest point on the forehead is 0.5 inches below the lowest point on the dummy's nose when the midsagittal plane is vertical.

(2) Drop the head from the specified height by a means that ensures instant release onto a rigidly supported flat horizontal steel plate, 2 inches thick and 2 feet square, which has a clean, dry surface and any microfinish of not less than 8 microinches (rms) and not more than 80 microinches (rms).

(3) Allow a time period of at least 2 hours between successive tests on the same head.

§ 572.7 Neck.

(a) The neck consists of the assembly shown as number SA 150 M020 in Figure 1 and conforms to each of the drawings subtended by number SA 150 M020.

(b) When the neck is tested with the head in accordance with paragraph (c) of this section, the head shall rotate in reference to the pendulum's

longitudinal centerline a total of $68^{\circ} \pm 5^{\circ}$ about its center of gravity, rotating to the extent specified in the following table at each indicated point in time, measured from impact, with a chordal displacement measured at its center of gravity that is within the limits specified. The chordal displacement at time T is defined as the straight line distance between (1) the position relative to the pendulum arm of the head center of gravity at time zero, and (2) the position relative to the pendulum arm of the head center of gravity at time T as illustrated by Figure 3. The peak resultant acceleration recorded at the location of the accelerometers mounted in the head form in accordance with § 572.11(b) shall not exceed 26g. The pendulum shall not reverse direction until the head's center of gravity returns to the original zero time position relative to the pendulum arm.

Rotation (degrees)	Time (ms) $\pm (2 + .08T)$	Chordal Displacement (inches ± 0.5)
0	0	0.0
30	30	2.6
60	46	4.8
Maximum	60	5.5
60	75	4.8
30	95	2.6
0	112	0.0

(c) Test procedure:

(1) Mount the head and neck on a rigid pendulum as specified in Figure 4, so that the head's midsagittal plane is vertical and coincides with the plane of motion of the pendulum's longitudinal centerline. Mount the neck directly to the pendulum as shown in Figure 4.

(2) Release the pendulum and allow it to fall freely from a height such that the velocity at impact is 23.5 ± 2.0 feet per second (fps), measured at the center of the accelerometer specified in Figure 4.

(3) Decelerate the pendulum to a stop with an acceleration-time pulse described as follows:

(i) Establish 5g and 20g levels on the a-t curve.

(ii) Establish t_1 at the point where the rising a-t curve first crosses the 5g level, t_2 at the point where the rising a-t curve first crosses the 20g level, t_3 at the point where the decaying

a - t curve last crosses the 20g level, and t_4 at the point where the decaying a - t curve first crosses the 5g level.

(iii) $t_2 - t_1$ shall be not more than 3 milliseconds.

(iv) $t_3 - t_2$ shall be not less than 25 milliseconds and not more than 30 milliseconds.

(v) $t_4 - t_3$ shall be not more than 10 milliseconds.

(vi) The average deceleration between t_2 and t_3 shall be not less than 20g and not more than 24g.

(vii) Allow the neck to flex without impact of the head or neck with any object other than the pendulum arm.

§ 572.8 Thorax.

(a) The thorax consists of the assembly shown as number SA 150 M030 in Figure 1, and conforms to each of the drawings subtended by number SA 150 M030.

(b) The thorax contains enough unobstructed interior space behind the rib cage to permit the midpoint of the sternum to be depressed 2 inches without contact between the rib cage and other parts of the dummy or its instrumentation, except for instruments specified in subparagraph (d) (7) of this section.

(c) When impacted by a test probe conforming to § 572.11(a) at 14 fps and at 22 fps in accordance with paragraph (d) of this section, the thorax shall resist with forces measured by the test probe of not more than 1450 pounds and 2250 pounds, respectively, and shall deflect by amounts not greater than 1.1 inches and 1.7 inches, respectively. The internal hysteresis in each impact shall not be less than 50 percent and not more than 70 percent.

(d) Test Procedure:

(1) With the dummy seated without back support on a surface as specified in § 572.11(i) and in the orientation specified in § 572.11(i), adjust the dummy arms and legs until they are extended horizontally forward parallel to the midsagittal plane.

(2) Place the longitudinal center line of the test probe so that it is 17.7 ± 0.1 inches above the seating surface at impact.

(3) Align the test probe specified in § 572.11 (a) so that at impact its longitudinal centerline

coincides within 2 degrees of a horizontal line in the dummy's midsagittal plane.

(4) Adjust the dummy so that the surface area on the thorax immediately adjacent to the projected longitudinal center line of the test probe is vertical. Limb support, as needed to achieve and maintain this orientation, may be provided by placement of a steel rod of any diameter not less than one-quarter of an inch and not more than three-eighths of an inch, with hemispherical ends, vertically under the limb at its projected geometric center.

(5) Impact the thorax with the test probe so that its longitudinal centerline falls within 2 degrees of a horizontal line in the dummy's midsagittal plane at the moment of impact.

(6) Guide the probe during impact so that it moves with no significant lateral, vertical, or rotational movement.

(7) Measure the horizontal deflection of the sternum relative to the thoracic spine along the line established by the longitudinal centerline of the probe at the moment of impact, using a potentiometer mounted inside the sternum.

(8) Measure hysteresis by determining the ratio of the area between the loading and unloading portions of the force deflection curve to the area under the loading portion of the curve.

§ 572.9 Lumbar spine, abdomen, and pelvis.

(a) The lumbar spine, abdomen, and pelvis consist of the assemblies designated as numbers SA 150 M050 and SA 150 M060 in Figure 1 and conform to the drawings subtended by these numbers.

(b) When subjected to continuously applied force in accordance with paragraph (c) of this section, the lumbar spine assembly shall flex by an amount that permits the rigid thoracic spine to rotate from its initial position in accordance with Figure 11 by the number of degrees shown below at each specified force level, and straighten upon removal of the force to within 12 degrees of its initial position in accordance with Figure 11.

<i>Flexion (degrees)</i>	<i>Force (± 6 pounds)</i>
0	0
20	28
30	40
40	52

(c) Test procedure:

(1) Assemble the thorax, lumbar spine, pelvic, and upper leg assemblies (above the femur force transducers), ensuring that all component surfaces are clean, dry, and untreated unless otherwise specified, and attach them to the horizontal fixture shown in Figure 5 at the two link rod pins and with the mounting brackets for the lumbar test fixtures illustrated in Figure 6 to 9.

(2) Attach the rear mounting of the pelvis to the pelvic instrument cavity rear face at the four $\frac{1}{4}$ " cap screw holes and attach the front mounting at the femur axial rotation joint. Tighten the mountings so that the pelvic-lumbar adapter is horizontal and adjust the femur friction plungers at each hip socket joint to 240 inch-pounds torque.

(3) Flex the thorax forward 50° and then rearward as necessary to return it to its initial position in accordance with Figure 11 unsupported by external means.

(4) Apply a forward force perpendicular to the thorax instrument cavity rear face in the midsagittal plane 15 inches above the top surface of the pelvic-lumbar adapter. Apply the force at any torso deflection rate between .5 and 1.5 degrees per second up to 40° of flexion but no further, continue to apply for 10 seconds that force necessary to maintain 40° of flexion, and record the force with an instrument mounted to the thorax as shown in Figure 5. Release all force as rapidly as possible and measure the return angle 3 minutes after the release.

(d) When the abdomen is subjected to continuously applied force in accordance with paragraph (e) of this section, the abdominal force-deflection curve shall be within the two curves plotted in Figure 10.

(e) Test procedure:

(1) Place the assembled thorax, lumbar spine, and pelvic assemblies in a supine position on a flat, rigid, smooth, dry, clean horizontal surface, ensuring that all component surfaces are clean, dry, and untreated unless otherwise specified.

(2) Place a rigid cylinder 6 inches in diameter and 18 inches long transversely across the abdomen, so that the cylinder is symmetrical about the midsagittal plane, with its longi-

tudinal centerline horizontal and perpendicular to the midsagittal plane at a point 9.2 inches above the bottom line of the buttocks, measured with the dummy positioned in accordance with Figure 11.

(3) Establish the zero deflection point as the point at which a force of 10 pounds has been reached.

(4) Apply a vertical downward force through the cylinder at any rate between 0.25 and 0.35 inches per second.

(5) Guide the cylinder so that it moves without significant lateral or rotational movement.

§ 572.10 Limbs.

(a) The limbs consist of the assemblies shown as numbers SA 150 M070, SA 150 M071, SA 150 M080, and SA 150 M081 in Figure 1 and conform to the drawings subtended by these numbers.

(b) When each knee is impacted at 6.9 ft/sec. in accordance with paragraph (c) of this section, the maximum force on the femur shall be not more than 2500 pounds and not less than 1850 pounds, with a duration above 1000 pounds of not less than 1.7 milliseconds.

(c) Test procedure:

(1) Seat the dummy without back support on a surface as specified in § 572.11(i) that is 17.3 ± 0.2 inches above a horizontal surface, oriented as specified in § 572.11(i), and with the hip joint adjustment at any setting between 1g and 2g. Place the dummy legs in planes parallel to its midsagittal plane (knee pivot centerline perpendicular to the midsagittal plane) and with the feet flat on the horizontal surface. Adjust the feet and lower legs until the lines between the midpoints of the knee pivots and the ankle pivots are at any angle not less than 2 degrees and not more than 4 degrees rear of the vertical, measured at the centerline of the knee pivots.

(2) Reposition the dummy if necessary so that the rearmost point of the lower legs at the level one inch below the seating surface remains at any distance not less than 5 inches and not more than 6 inches forward of the forward edge of the seat.

(3) Align the test probe specified in § 572.11(a) so that at impact its longitudinal centerline coincides within $\pm 2^\circ$ with the longitudinal centerline of the femur.

(4) Impact the knee with the test probe moving horizontally and parallel to the midsagittal plane at the specified velocity.

(5) Guide the probe during impact so that it moves with no significant lateral, vertical, or rotational movement.

§ 572.11 Test conditions and instrumentation.

(a) The test probe used for thoracic and knee impact tests is a cylinder 6 inches in diameter that weighs 51.5 pounds including instrumentation. Its impacting end has a flat right face that is rigid and that has an edge radius of 0.5 inches.

(b) Accelerometers are mounted in the head on the horizontal transverse bulkhead shown in the drawings subreferenced under assembly No. SA 150 M010 in Figure 1, so that their sensitive axes intersect at a point in the midsagittal plane 0.5 inches above the horizontal bulkhead and 1.9 inches ventral of the vertical mating surface of the skull with the skull cover. One accelerometer is aligned with its sensitive axis perpendicular to the horizontal bulkhead in the midsagittal plane and with its seismic mass center at any distance up to 0.3 inches superior to the axial intersection point. Another accelerometer is aligned with its sensitive axis parallel to the horizontal bulkhead and perpendicular to the midsagittal plane, and with its seismic mass center at any distance up to 1.3 inches to the left of the axial intersection point (left side of dummy is the same as that of man). A third accelerometer is aligned with its sensitive axis parallel to the horizontal bulkhead in the midsagittal plane, and with its seismic mass center at any distance up to 1.3 inches dorsal to the axial intersection point.

(c) Accelerometers are mounted in the thorax by means of a bracket attached to the rear vertical surface (hereafter "attachment surface") of the thoracic spine so that their sensitive axes intersect at a point in the midsagittal plane 0.8 inches below the upper surface of the plate to which the neck mounting bracket is attached and 3.2 inches perpendicularly forward of the surface to which

the accelerometer bracket is attached. One accelerometer has its sensitive axis oriented parallel to the attachment surface in the midsagittal plane, with its seismic mass center at any distance up to 1.3 inches inferior to the intersection of the sensitive axes specified above. Another accelerometer has its sensitive axis oriented parallel to the attachment surface and perpendicular to the midsagittal plane, with its seismic mass center at any distance up to 0.2 inches to the right of the intersection of the sensitive axes specified above. A third accelerometer has its sensitive axis oriented perpendicular to the attachment surface in the midsagittal plane, with its seismic mass center at any distance up to 1.3 inches dorsal to the intersection of the sensitive axes specified above. Accelerometers are oriented with the dummy in the position specified in § 572.11(i).

(d) A force-sensing device is mounted axially in each femur shaft so that the transverse centerline of the sensing element is 4.25 inches from the knee's center of rotation.

(e) The outputs of acceleration and forcesensing devices installed in the dummy and in the test apparatus specified by this Part are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211a, December 1971, with channel classes as follows:

- (1) Head acceleration—Class 1000.
- (2) Pendulum acceleration—Class 60.
- (3) Thorax acceleration—Class 180.
- (4) Thorax compression—Class 180.
- (5) Femur force—Class 600.

(f) The mountings for sensing devices have no resonance frequency within a range of 3 times the frequency range of the applicable channel class.

(g) Limb joints are set at 1g, barely restraining the weight of the limb when it is extended horizontally. The force required to move a limb segment does not exceed 2g throughout the range of limb motion.

(h) Performance tests are conducted at any temperature from 66° F to 78° F and at any relative humidity from 10 percent to 70 percent after exposure of the dummy to these conditions for a period of not less than 4 hours.

(i) For the performances tests specified in §§ 572.8, 572.9, and 572.10, the dummy is positioned in accordance with Figure 11 as follows:

(1) The dummy is placed on a flat, rigid, smooth, clean, dry, horizontal, steel test surface whose length and width dimensions are not less than 16 inches, so that the dummy's midsagittal plane is vertical and centered on the test surface and the rearmost points on its lower legs at the level of the test surface are at any distance not less than 5 inches and not more than 6 inches forward of the forward edge of the test surface.

(2) The pelvis is adjusted so that the upper surface of the lumbar-pelvic adapter is horizontal.

(3) The shoulder yokes are adjusted so that they are at the midpoint of their anterior posterior travel with their upper surfaces horizontal.

(4) The dummy is adjusted so that the rear surfaces of the shoulders and buttocks are tangent to a transverse vertical plane.

(5) The upper legs are positioned symmetrically about the midsagittal plane so that the distance between the knee pivot bolt heads is 11.6 inches.

(6) The lower legs are positioned in planes parallel to the midsagittal plane so that the lines between the midpoint of the knee pivots and the ankle pivots are vertical.

(j) The dummy's dimensions, as specified in drawing number SA 150 M002, are determined as follows:

(1) With the dummy seated as specified in paragraph (i), the head is adjusted and secured so that its occiput is 1.7 inches forward of the transverse vertical plane with the vertical mating surface of the skull with its cover parallel to the transverse vertical plane.

(2) The thorax is adjusted and secured so that the rear surface of the chest accelerometer mounting cavity is inclined 3° forward of vertical.

(3) Chest and waist circumference and chest depth measurements are taken with the dummy positioned in accordance with paragraph (i), (1) and (2) of this section.

(4) The chest skin and abdominal sac are removed and all following measurements are made without them.

(5) Seated height is measured from the seating surface to the uppermost point on the head-skin surface.

(6) Shoulder pivot height is measured from the seating surface to the center of the arm elevation pivot.

(7) H-point locations are measured from the seating surface to the center of the holes in the pelvis flesh covering in line with the hip motion ball.

(8) Knee pivot distance from the backline is measured to the center of the knee pivot bolt head.

(9) Knee pivot distance from floor is measured from the center of the knee pivot bolt head to the bottom of the heel when the foot is horizontal and pointing forward.

(10) Shoulder width measurement is taken at arm elevation pivot center height with the centerlines between the elbow pivots and the shoulder pivots vertical.

(11) Hip width measurement is taken at widest point of pelvic section.

(k) Performance tests of the same component, segment, assembly, or fully assembled dummy are separated in time by a period of not less than 30 minutes unless otherwise noted.

(l) Surfaces of dummy components are not painted except as specified in this part or in drawings subtended by this part.

Subpart C—Three Year Old Child

Sec.

572.15 General description.

572.16 Head.

572.17 Neck.

572.18 Thorax.

572.19 Lumbar, spine, abdomen and plevis.

572.20 Limbs.

572.21 Test conditions and instrumentation.

Subpart C—Three Year Old Child

§ 572.15 General description.

(a)(1) The dummy consists of the component assemblies specified in drawing SA 103C 001, which are described in their entirety by means of approximately 122 drawings and specifications grouped by component assemblies under the following headings:

SA 103C 010 Head Assembly
 SA 103C 020 Neck Assembly
 SA 103C 030 Torso Assembly
 SA 103C 041 Upper Arm Assembly Left
 SA 103C 042 Upper Arm Assembly Right
 SA 103C 051 Forearm Hand Assembly Left
 SA 103C 052 Forearm Hand Assembly Right
 SA 103C 061 Upper Leg Assembly Left
 SA 103C 062 Upper Leg Assembly Right
 SA 103C 071 Lower Leg Assembly Left
 SA 103C 072 Lower Leg Assembly Right
 SA 103C 081 Foot Assembly Left
 SA 103C 082 Foot Assembly Right

The drawings and specifications are incorporated in this part by reference to the thirteen headings and are available for examination in Docket 78-09, Room 5109, 400 Seventh Street S.W., Washington, D.C. 20590. [Copies may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, N.W., Washington, D.C. 20005, attention Mr. Allan Goldberg and Mr. Mark Krynski ((202) 628-6667). (50 F.R. 25422—June 19, 1985. Effective: June 19, 1985)]

(2) The patterns of all cast and molded parts for reproduction of the molds needed in manufacturing of the dummies are incorporated in this part by reference. A set of the patterns can be obtained on a loan basis by manufacturers of the test dummies, or others if need is shown, from the Office of Vehicle Safety Standards, NHTSA, 400 Seventh Street S.W., Washington, D.C. 20590.

(3) [An Operation and Maintenance Manual (dated May 28, 1976, Contract No. DOT-HS-6-01294) with instructions for the use and maintenance of the test dummies is incorporated in this Part by reference. Copies of the manual can be obtained from Rowley-Scher Reprographics, Inc. All provisions of this manual are valid unless modified by this regulation. This document is available for examination in Docket 78-09. (50 F.R. 25422—June 19, 1985. Effective: June 19, 1985)]

(4) The drawings, specifications and the manual are subject to changes, but any change will be accomplished by appropriate administrative procedures and announced by publication in the Federal Register and be available for examination and copying as indicated in this paragraph.

(5) The drawings, specifications, patterns, and manual are on file in the reference library of the Federal Register, National Archives and Records Service, General Services Administration, Washington, D.C.

(b) Adjacent segments are joined in a manner such that throughout the range of motion and also under simulated crash-impact conditions, there is no contact between metallic elements except for contacts that exist under static conditions.

(c) The structural properties of the dummy are such that the dummy conforms to this part in every respect both before and after being used in tests specified by Standard No. 213, Child Restraint Systems (§ 571.213).

§ 572.16 Head.

(a) The head consists of the assembly shown in drawing SA 103C 001 by number SA 103C 010, and conforms to each of the drawings listed under this number on drawing SA 103C 002, sheet 8.

(b) When the head is impacted in accordance with paragraph (c) of this section by a test probe conforming to § 572.21(a) at 7 fps., the peak resultant accelerations measured at the location of the accelerometers mounted in the headform in accordance with § 572.21(b) shall be not less than 95g, and not more than 115g. The recorded acceleration-time curve for this test shall be unimodal at, or above the 50g level and shall lie at, or above that level for an interval not less than 2.0 and not more than 3.0 milliseconds. The lateral acceleration vector shall not exceed 7g.

(c) Test Procedure:

(1) Seat the dummy on a seating surface having a back support as specified in § 572.21(h) and orient the dummy in accordance with § 572.21(h) and adjust the joints of the limbs at any setting between 1g and 2g, which just supports the limbs' weight when the limbs are extended horizontally forward.

(2) Adjust the test probe so that its longitudinal centerline is at the forehead at the point of orthogonal intersection of the head midsagittal plane and the transverse plane which is perpendicular to the "Z" axis of the head (longitudinal centerline of the skull anchor) and is located $0.6 \pm .1$ inches above the centers of the head center of gravity reference pins and coincides within 2 degrees with the line made by the intersection of horizontal and midsagittal planes passing through this point.

(3) Adjust the dummy so that the surface area on the forehead immediately adjacent to the projected longitudinal centerline of the test probe is vertical.

(4) Impact the head with the test probe so that at the moment of impact the probe's longitudinal centerline falls within 2 degrees of a horizontal line in the dummy's midsagittal plane.

(5) Guide the probe during impact so that it moves with no significant lateral, vertical, or rotational movement.

(6) Allow a time period of at least 20 minutes between successive tests of the head.

§ 572.17 Neck.

(a) The neck consists of the assembly shown in drawing SA 103C 001 as number SA 103C 020, and conforms to each of the drawings listed under this number on drawing SA 103C 002, sheet 9.

(b) When the head-neck assembly is tested in accordance with paragraph (c) of this section, the head shall rotate in reference to the pendulum's longitudinal centerline a total of 84 degrees \pm 8 degrees about its center of gravity, rotating to the extent specified in the following table at each indicated point in time, measured from impact, with the chordal displacement measured at its center of gravity. The chordal displacement at time T is defined as the straight line distance between (1) the position relative to the pendulum arm of the head center of gravity at time zero, and (2) the position relative to the pendulum arm of the head center of gravity at time T as illustrated by Figure 3. The peak resultant acceleration recorded at the location of the accelerometers mounted in the headform in accordance with § 572.21(b) shall not exceed 30g. The pendulum shall not reverse direction until the head's center of gravity returns to the original zero time position relative to the pendulum arm.

Rotation (degrees)	Time (ms) \pm (2 + .08T)	Chordal Displacement (inches \pm 0.8)
0	0	0
30	21	2.2
60	36	4.3
Maximum	62	5.8
60	91	4.3
30	108	2.2
0	123	0

(c) Test Procedure:

(1) Mount the head and neck on a rigid pendulum as specified in Figure 4, so that the head's

midsagittal plane is vertical and coincides with the plane of motion of the pendulum's longitudinal centerline. Mount the neck directly to the pendulum as shown in Figure 15.

(2) Release the pendulum and allow it to fall freely from a height such that the velocity at impact is 17.00 ± 1.0 feet per second (fps), measured at the center of the accelerometer specified in Figure 4.

(3) Decelerate the pendulum to a stop with an acceleration-time pulse described as follows:

(i) Establish 5g and 20g levels on the a-t curve.

(ii) Establish t_1 at the point where the a-t curve first crosses the 5g level, t_2 at the point where the rising a-t curve first crosses the 20g level, t_3 at the point where the decaying a-t curve last crosses the 20g level, and t_4 at the point where the decaying a-t curve first crosses the 5g level.

(iii) $t_2 - t_1$, shall be not more than 4 milliseconds.

(iv) $t_3 - t_2$, shall be not less than 18 and not more than 21 milliseconds.

(v) $t_4 - t_3$, shall be not more than 5 milliseconds.

(vi) The average deceleration between t_2 and t_3 shall be not less than 20g and not more than 34g.

(4) Allow the neck to flex without contact of the head or neck with any object other than the pendulum arm.

(5) Allow a time period of at least 1 hour between successive tests of the head and neck.

§ 572.18 Thorax.

(a) The thorax consists of the part of the torso shown in assembly drawing SA 103C 001 by number SA 103C 030 and conforms to each of the applicable drawings listed under this number on drawings SA 103C 002, sheets 10 and 11.

(b) When impacted by a test probe conforming to § 572.21(a) at 13 fps. in accordance with paragraph (c) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the chest cavity in accordance with § 572.21(c) shall be not less than 50g and not more than 70g. The acceleration-time curve for the test shall be unimodal at or above the 30g level and shall lie at or above the 30g level for an interval not less than 2.5 milliseconds and not more than 4.0 milliseconds. The lateral acceleration shall not exceed 5g.

(c) Test Procedure:

(1) With the dummy seated without back support on a surface as specified in § 572.21(h) and

oriented as specified in § 572.21(h), adjust the dummy arms and legs until they are extended horizontally forward parallel to the midsagittal plane, the joints of the limbs are adjusted at any setting between 1g and 2g, which just supports the limbs' weight when the limbs are extended horizontally forward.

(2) Establish the impact point at the chest midsagittal plane so that it is 1.5 inches below the longitudinal centerline of the bolt that attaches the top of the ribcage sternum to the thoracic spine box.

(3) Adjust the dummy so that the tangent plane at the surface on the thorax immediately adjacent to the designated impact point is vertical and parallel to the face of the test probe.

(4) Place the longitudinal centerline of the test probe to coincide with the designated impact point and align the test probe so that at impact its longitudinal centerline coincides within 2 degrees with the line formed by intersection of the horizontal and midsagittal planes passing through the designated impact point.

(5) Impact the thorax with the test probe so that at the moment of impact the probe's longitudinal centerline falls within 2 degrees of a horizontal line in the dummy midsagittal plane.

(6) Guide the probe during impact so that it moves with no significant lateral, vertical or rotational movement.

(7) Allow a time period of at least 20 minutes between successive tests of the chest.

§ 572.19 Lumbar spine, abdomen and pelvis.

(a) The lumbar spine, abdomen, and pelvis consist of the part of the torso assembly shown by number SA 103C 030 on drawing SA 103C 001 and conform to each of the applicable drawings listed under this number on drawing SA 103C 002, sheets 10 and 11.

(b) When subjected to continuously applied force in accordance with paragraph (c) of this section, the lumbar spine assembly shall flex by an amount that permits the rigid thoracic spine to rotate from its initial position in accordance with Figure 18 of this subpart by 40 degrees at a force level of not less than 34 pounds and not more than 47 pounds, and straighten upon removal of the force to within 5 degrees of its initial position.

(c) *Test Procedure:* (1) The dummy with lower legs removed is positioned in an upright seated position on a seat as indicated in Figure 18, ensuring that all dummy component surfaces are clean, dry and untreated unless otherwise specified.

(2) Attach the pelvis to the seating surface by a bolt C/328, modified as shown in Figure 18, and the upper legs at the knee axial rotation joints by the attachments shown in Figure 18. Tighten the mountings so that the pelvis-lumbar joining surface is horizontal and adjust the femur ball-flange screws at each hip socket joint to 50 inch pounds torque. Remove the head and the neck and install a cylindrical aluminum adapter 2.0 inches in diameter and 2.80 inches long in place of the neck.

(3) Flex the thorax forward 50 degrees and then rearward as necessary to return to its initial position in accordance with Figure 18 unsupported by external means.

(4) Apply a forward pull force in the midsagittal plane at the top of the neck adapter, so that at 40 degrees of the lumbar spine flexion the applied force is perpendicular to the thoracic spine box. Apply the force at any torso deflection rate between 0.5 and 1.5 degrees per second up to 40 degrees of flexion but no further; continue to apply for 10 seconds the force necessary to maintain 40 degrees of flexion, and record the highest applied force at that time. Release all force as rapidly as possible and measure the return angle 3 minutes after the release.

§ 572.20 Limbs.

The limbs consist of the assemblies shown on drawing SA 103C 001 as Nos. SA 103C 041, SA 103C 042, SA 103C 051, SA 103C 052, SA 103C 061, SA 103C 062, SA 103C 071, SA 103C 072, SA 103C 081, SA 103C 082, and conform to each of the applicable drawings listed under their respective numbers of the drawing SA 103C 002, sheets 12 through 21.

§ 572.21 Test conditions and instrumentation.

(a) The test probe used for head and thoracic impact tests is a cylinder 3 inches in diameter, 13.8 inches long and weighs 10 lbs., 6 ozs. Its impacting end has a flat right face that is rigid and that has an edge radius of 0.5 inches.

(b) Accelerometers are mounted in the head on the mounting block (A/310) located on the horizontal transverse bulkhead shown in the drawings

subreferenced under assembly SA 103C 010 so that their sensitive axes are orthogonal and their seismic masses are positioned relative to the axial intersection point. Except in the case of tri-axial accelerometers, the sensitive axes shall intersect at the axial intersection point located at the intersection of a line connecting the longitudinal centerlines of the transfer pins in the sides of the dummy head with the midsagittal plane of the dummy head. One accelerometer is aligned with its sensitive axis parallel to the vertical bulkhead and midsagittal plane, and with its seismic mass center at the midsagittal plane at any distance up to 0.3 inches dorsal and 0.1 inches inferior to the axial intersection point. Another accelerometer is aligned with its sensitive axis in the horizontal plane and perpendicular to the midsagittal plane, and with its seismic mass center at any distance up to 0.2 inches inferior to, 0.4 inches to the right of, and 1 inch dorsal to the axial intersection point (right side of dummy is the same as that of child). A third accelerometer is aligned with its sensitive axis parallel to the midsagittal and horizontal planes, and with its seismic mass center at any distance up to 0.2 inches inferior to, 0.6 inches dorsal to, and 0.4 inches to the right of the axial intersection point. In the case of a tri-axial accelerometer, its axes are aligned in the same way that the axes of three separate accelerometers are aligned.

(c) Accelerometers are mounted in the thorax on the mounting plate attached to the vertical transverse bulkhead shown in the drawings subreferenced under assembly No. SA 103C 030 in drawing SA 103C 001 so that their sensitive axes are orthogonal and their seismic masses are positioned relative to the axial intersection point located in the midsagittal plane 3 inches above the top surface of the lumbar spine and 0.3 inches dorsal to the accelerometer mounting plate surface. Except in the case of tri-axial accelerometers, the sensitive axes shall intersect at the axial intersection point. One accelerometer is aligned with its sensitive axis parallel to the vertical bulkhead and midsagittal planes, and with its seismic mass center at any distance up to 0.2 inches to the right, 0.2 inches inferior and 0.1 inches ventral of the axial intersection point. Another accelerometer is aligned with its sensitive axis in the horizontal transverse plane and perpendicular to the midsagittal plane and with its seismic mass center at any distance up to 0.3 inches to the left, 0.2 inches

inferior and 0.2 inches ventral to the axial intersection point. A third accelerometer is aligned with its sensitive axis parallel to the midsagittal and horizontal planes and with its seismic mass center at any distance up to 0.3 inches superior, 0.6 inches to the right and 0.1 inches ventral to the axial intersection point. In the case of a tri-axial accelerometer, its axes are aligned in the same way that the axes of three separate accelerometers are aligned.

(d) The outputs of accelerometers installed in the dummy, and of test apparatus specified by this part, are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211a, December 1971, with channel classes as follows:

- (1) Head acceleration—Class 1,000.
- (2) Pendulum acceleration—Class 60.
- (3) Thorax acceleration—Class 180.

(e) The mountings for accelerometers have no resonance frequency less than 3 times the cut-off frequency of the applicable channel class.

(f) Limb joints are set at the force between 1–2g, which just supports the limbs' weight when the limbs are extended horizontally forward. The force required to move a limb segment does not exceed 2g throughout the range of limb motion.

(g) Performance tests are conducted at any temperature from 66° F to 78° F and at any relative humidity from 10 percent to 70 percent after exposure of the dummy to these conditions for a period of not less than 4 hours.

(h) For the performance tests specified §§ 572.16, 572.18, and 572.19, the dummy is positioned in accordance with Figures 16, 17, and 18 as follows:

(1) The dummy is placed on a flat, rigid, clean, dry, horizontal surface of teflon sheeting with a smoothness of 40 microinches and whose length and width dimensions are not less than 16 inches, so that the dummy's midsagittal plane is vertical and centered on the test surface. For head tests, the seat has a vertical back support whose top is 12.4 ± 0.2 inches above the seating surface. The rear surfaces of the dummy's shoulders and buttocks are touching the back support as shown in Figure 16. For thorax and lumbar spine tests, the seating surface is without the back support as shown in Figures 17 and 18 respectively.

(2) The shoulder yokes are adjusted so that they are at the midpoint of their anterior-posterior travel with their upper surfaces horizontal.

(3) The dummy is adjusted for head impact and lumbar flexion tests so that the rear surfaces of the shoulders and buttocks are tangent to a transverse vertical plane.

(4) The arms and legs are positioned so that their centerlines are in planes parallel to the midsagittal plane.

(i) The dummy's dimensions are specified in drawings No. SA 103C 002, sheets 22 through 26.

(j) Performance tests of the same component, segment, assembly or fully assembled dummy are separated in time by a period of not less than 20 minutes unless otherwise specified.

(k) Surfaces of the dummy components are not painted except as specified in this part or in drawings subtended by this part.

Subpart D—Six Month Old Infant

§ 572.25 General Description.

(a) The infant dummy is specified in its entirety by means of 5 drawings (No. SA 100I 001) and a construction manual which describes in detail the materials and the procedures involved in the manufacturing of this dummy. The drawings and the manual are incorporated in this part by reference and are available for examination in Docket 78-09, Room 5109, 400 Seventh Street S.W., Washington, D.C. 20590. Copies may be obtained from Rowley-Scher Reprographics, Inc. 1216 K Street, N.W. Washington, D.C., 20005, attention Mr. Allan Goldberg and Mr. Mark Krysinski ((202) 628-6667). The drawings and the manual are subject to changes, but any change will be accomplished by appropriate administrative procedures and announced by publication in the *Federal Register* and be available for examination and copying as indicated in this paragraph. The drawings and manual are on file in the reference library of the *Federal Register*, National Archives and Records Services, General Services Administration, Washington, D.C. (50 F.R. 25422—June 19, 1985. Effective: June 19, 1985)

(b) The structural properties and dimensions of the dummy are such that the dummy conforms to this part in every respect, both before and after being used in tests specified by Standard No. 213 (571.213).

§ 572.30 Incorporated Materials.

(a) The drawings and specifications referred to in this regulation that are not set forth in full are hereby incorporated in this part by reference. The Director of the Federal Register has approved the materials incorporated by reference. For materials subject to change, only the specific version approved by the Director of the Federal Register and specified in the regulation are incorporated. A notice of any change will be published in the *Federal Register*. As a convenience to the reader, the materials incorporated by reference are listed in the Finding Aid Table found at the end of this volume of the Code of Federal Regulations.

(b) The materials incorporated by reference are available for examination in the general reference section of Docket 74-14, Docket Section, National Highway Traffic Safety Administration, Room 5109, 400 Seventh Street, S.W., Washington, D.C. 20590. Copies may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, N.W., Washington, D.C. 20005 ((202) 628-6667). The drawings and specifications are also on file in the reference library of the Office of the Federal Register, National Archives and Records Administration, Washington, D.C.

§ 572.31 General Description.

(a) The Hybrid III 50th percentile size dummy consists of components and assemblies specified in the Anthropomorphic Test Dummy drawing and specifications package which consists of the following six items:

(1) The Anthropomorphic Test Dummy Parts List, dated [December 15, 1987], and containing 13 pages, and Parts list Index, dated [December 15, 1987], containing [8] pages,

(2) A listing of Optional Hybrid III Dummy Transducers, dated April 22, 1986, contained 4 pages

(3) A General Motors Drawing package identified by GM drawing No. 78051-218 revision [R] and subordinate drawings.

(4) Disassembly, Inspection, Assembly and Limbs Adjustment Procedures for the Hybrid III Dummy, dated July 15, 1986,

(5) Sign Convention for the signal outputs of Hybrid III Dummy Transducers, dated July 15, 1986,

(6) Exterior Dimensions of the Hybrid III Dummy, dated July 15, 1986.

(b) The dummy is made up of the following component assemblies:

Drawing Number		Revision
78051-61	Head Assembly-Complete-	(T)
78051-90	Neck Assembly-Complete-	(A)
78051-89	Upper Torso Assembly-Complete-	[(K)]
78051-70	Lower Torso Assembly-Without Pelvic Instrumentation Assembly, Drawing Number 78051-59	[(D)]
86-5001-001	Leg Assembly-Complete (LH)-	[(E)]
86-5001-002	Leg Assembly-Complete (RH)-	[(E)]
78051-123	Arm Assembly-Complete (LH)-	(D)
78051-124	Arm Assembly-Complete (RH)-	(D)

(c) Any specifications and requirements set forth in this part supercede those contained in General Motors Drawing No. 78051-218, revision P.

(d) Adjacent segments are joined in a manner such that throughout the range of motion and also under crash-impact conditions, there is no contact between metallic elements except for contacts that exist under static conditions.

(e) The weights, inertial properties and centers of gravity location of component assemblies shall conform to those listed in drawing 78051-338, revision S.

(f) The structural properties of the dummy are such that the dummy conforms to this part in every respect both before and after being used in vehicle test specified in Standard No. 208 of this Chapter (S 571.208). (53 F.R. 8755—March 17, 1988. Effective: March 17, 1988)

§ 572.32 Head.

(a) The head consists of the assembly shown in the drawing 78051-61, revision T, and shall conform to each of the drawings subtended therein.

(b) When the head (drawing 78051-61, revision T) with neck transducer structural replacement (drawing 78051-383, revision F) is dropped from a height of 14.8 inches in accordance with paragraph (c) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the head in accordance with 572.36(c) shall not be less than 225g, and not more than 275g. The acceleration/time curve for the test shall be unimodal to the extent that oscillations occurring after the main acceleration pulse are less than ten percent (zero to peak) of the main pulse. The lateral acceleration vector shall not exceed 15g (zero to peak).

(c) *Test Procedure.* (1) Soak the head assembly in a test environment at any temperature between

66 degrees F to 78 degrees F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(2) Clean the head's skin surface and the surface of the impact plate with 1,1,1 Trichlorethane or equivalent.

(3) Suspend the head, as shown in Figure 19, so that the lowest point on the forehead is 0.5 inches below the lowest point on the dummy's nose when the midsagittal plane is vertical.

(4) Drop the head from the specified height by means that ensure instant release onto a rigidly supported flat horizontal steel plate, which is 2 inches thick and 2 feet square. The plate shall have a clean, dry surface and any microfinish of not less than 8 microinches (rms) and not more than 80 microinches (rms).

(5) Allow at least 2 hours between successive tests on the same head.

§ 572.33 Neck.

(a) The neck consists of the assembly shown in drawing 78051-90, revision A and conforms to each of the drawings subtended therein.

(b) When the neck and head assembly (consisting of the parts 78051-61, revision T; -84; -90, revision A; -96; -98; -303, revision E; -305; -306; -307, revision X, which has a neck transducer (drawing 83-5001-008) installed in conformance with 572.36(d), is tested in accordance with paragraph (c) of this section, it shall have the following characteristics:

(1) *Flexion.* (i) Plane D, referenced in Figure 20, shall rotate between 64 degrees and 78 degrees, which shall occur between 57 milliseconds (ms) and 64 ms from time zero. In first rebound, the rotation of plane D shall cross 0 degrees between 113 ms and 128 ms.

(ii) The moment measured by the neck transducer (drawing 83-5001-008) about the occipital condyles, referenced in Figure 20, shall be calculated by the following formula: Moment (lbs-ft) = $M_y + 0.02875 \times F_x$, where M_y is the moment measured in lbs-ft by the moment sensor of the neck transducer and F_x is the force measure measured in lbs by the x axis force sensor of the neck transducer. The moment shall have a maximum value between 65 lbs-ft occurring between 47 ms and 58 ms, and the positive moment shall decay for the first time to 0 lb-ft between 97 ms and 107 ms.

(2) *Extension.* (i) Plane D, referenced in Figure 21, shall rotate between 81 degrees and 106 degrees, which shall occur between 72 and 82 ms from time zero. In first rebound, the rotation of plane D shall cross 0 degree between 147 and 174 ms.

(ii) The moment measured by the neck transducer (drawing 83-5001-008) about the occipital condyles, referenced in Figure 21, shall be calculated by the following formula: $\text{Moment (lbs-ft)} = M_y + 0.02875 \times F_x$, where M_y is the moment measured in lbs-ft by the moment sensor of the neck transducer and F_x is the force measure measured in lbs by the x axis force sensor of the neck transducer. The moment shall have a minimum value between -39 lbs-ft and -59 lbs-ft, which shall occur between 65 ms and 79 ms, and the negative moment shall decay for the first time to 0 lb-ft between 120 ms and 148 ms.

(3) Time zero is defined as the time of contact between the pendulum striker plate and the aluminum honeycomb material.

(c) *Test Procedure.* (1) Soak the test material in a test environment at any temperature between 69 degrees F to 72 degrees F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(2) Torque the jamnut (78051-64) on the neck cable (78051-301, revision E) to 1.0 lbs-ft \pm .2 lbs-ft.

(3) Mount the head-neck assembly, defined in paragraph (b) of this section, on a rigid pendulum as shown in Figure 22 so that the head's midsagittal plane is vertical and coincides with the plane of motion of the pendulum's longitudinal axis.

(4) Release the pendulum and allow it to fall freely from a height such that the tangential velocity at the pendulum accelerometer centerline at the instance of contact with the honeycomb is 23.0 ft/sec \pm 0.4 ft/sec. for flexion testing and 19.9 ft/sec \pm 0.4 ft/sec. for extension testing. The pendulum deceleration vs. time pulse for flexion testing shall conform to the characteristics shown in Table A and the decaying deceleration-time curve shall first cross 5g between 34 ms and 42 ms. The pendulum deceleration vs. time pulse for extension testing shall conform to the characteristics shown in Table B and the decaying deceleration-time curve shall cross 5g between 38 ms and 46 ms.

Table A
Flexion Pendulum Deceleration vs. Time Pulse

<i>Time (ms)</i>	<i>Flexion deceleration level (g)</i>
10	22.50—27.50
20	17.60—22.60
30	12.50—18.50
Any other time above 30 ms	29 maximum

Table B
Extension Pendulum Deceleration vs. Time Pulse

<i>Time (ms)</i>	<i>Extension deceleration level (g)</i>
10	17.20—21.00
20	14.00—19.00
30	11.00—16.00
Any other time above 30 ms	22 maximum

(5) Allow the neck to flex without impact of the head or neck with any object during the test.

§ 572.34 Thorax.

(a) The thorax consists of the upper torso assembly in drawing 78051-89, revision [K] and shall conform to each of the drawings subtended therein.

(b) [When impacted by a test probe conforming to S 572.36(a) at 22 fps \pm .40 fps in accordance with paragraph (c) of this section, the thorax of a complete dummy assembly (78051-218, revision R) with left and right shoes (78051-294 and -295) removed, shall resist with a force of 1242.5 pounds \pm 82.5 pounds measured by the test probe and shall have a sternum displacement measured relative to spine of 2.68 inches \pm 0.18 inches. The internal hysteresis in each impact shall be more than 69% but less than 85%. The force measured is the product of pendulum mass and deceleration.] (53 F.R. 8755—March 17, 1988. Effective: March 17, 1988)

(c) *Test procedure.* (1) Soak the test dummy in an environment with a relative humidity from 10% to 70% until the temperature of the ribs of the test dummy have stabilized at a temperature between 69 degrees F and 72 degrees F.

(2) [Seat the dummy without back and arm supports on a surface as shown in Figure 23, and set the angle of the pelvic bone at 13 degrees plus or minus 2 degrees, using the procedure described in S 11.4.3.2 of Standard No. 208 (S 571.208 of this chapter).] (53 F.R. 8755—March 17, 1988. Effective: March 17, 1988).

(3) Place the longitudinal centerline of the test probe so that it is .5 in \pm .04 in. below the horizontal centerline of the No. 3 Rib (reference drawing number 79051-64, revision A-M) as shown in Figure 23.

(4) Align the test probe specified in S572.36(a) so that at impact it longitudinal centerline coincides within .5 degree of a horizontal line in the dummy's midsagittal plane.

(5) Impact the thorax with the test probe so that the longitudinal centerline of the test probe falls within 2 degrees of a horizontal line in the dummy's midsagittal plane at the moment of impact.

(6) Guide the probe during impact so that it moves with no significant lateral, vertical, or rotational movement.

(7) Measure the horizontal deflection of the sternum relative to the thoracic spine along the line established by the longitudinal centerline of the probe at the moment of impact, using a potentiometer (ref. drawing 78051-317, revision A) mounted inside the sternum as shown in drawing 78051-89, revision I.

(8) Measure hysteresis by determining the ratio of the area between the loading and unloading portions of the force deflection curve to the area under the loading portion of the curve.

§ 572.35 Limbs.

(a) The limbs consist of the following assemblies: leg assemblies 86-5001-001 and -002 and arm assemblies 78051-123, revision D, and -124, revision D, and shall conform to the drawings subtended therein.

(b) [When each knee of the leg assemblies is impacted, in accordance with paragraph (c) of this section, at 6.9 ft/sec \pm 0.10 ft/sec., by the pendulum defined in S 572.36(b), the peak knee impact force, which is a product of pendulum mass and acceleration, shall have a minimum value of not less than 1060 pounds and a maximum value of not more than 1300 pounds.] (53 F.R. 8755—March 17, 1988. Effective: March 17, 1988)

(c) *Test Procedure.* (c) The test material consists of leg assemblies (86-5001-001) left and (-002) right with upper leg assemblies (78051-46) left and (78051-47) right removed. The load cell simulator (78051-319, revision A) is used to secure the knee cap assemblies (79051-16, revision B) as shown in Figure 24.

(2) Soak the test material in a test environment at any temperature between 66 degrees F to 78 degrees F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(3) Mount the test material with the leg assembly secured through the load cell simulator to a rigid surface as shown in Figure 24. No contact is permitted between the foot and any other exterior surfaces.

(4) Place the longitudinal centerline of the test probe so that at contact with the knee it is colinear within 2 degrees with the longitudinal centerline of the femur load cell simulator.

(5) Guide the pendulum so that there is no significant lateral, vertical or rotational movement at time zero.

(6) Impact the knee with the test probe so that the longitudinal centerline of the test probe at the instant of impact falls within .5 degrees of a horizontal line parallel to the femur load cell simulator at time zero.

(7) Time zero is defined as the time of contact between the test probe and the knee.

§ 572.36 Test Conditions and Instrumentation.

(a) The test probe used for thoracic impact tests is a 6 inch diameter cylinder that weighs 51.5 pounds including instrumentation. Its impacting end has a flat right angle face that is rigid and has an edge radius of 0.5 inches. The test probe has an accelerometer mounted on the end opposite from impact with its sensitive axis colinear to the longitudinal centerline of the cylinder.

(b) The test probe used for the knee impact tests is a 3 inch diameter cylinder that weighs 11 pounds including instrumentation. Its impacting end has a flat right angle face that is rigid and has an edge radius of 0.2 inches. The test probe has an accelerometer mounted on the end opposite from impact with its sensitive axis colinear to the longitudinal centerline of the cylinder.

(c) Head accelerometers shall have dimensions, response characteristics and sensitive mass locations specified in drawing 78051-136, revision A or its equivalent and be mounted in the head as shown in drawing 78051-61, revision T, and in the assembly shown in drawing 78051-218, revision [R].

(d) The neck transducer shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing 83-5001-008 or its equivalent and be mounted for testing as shown in drawing 79051-63, revision W, and in the assembly shown in drawing 78051-218, revision [R].

(e) The chest accelerometers shall have the dimensions, response characteristics, and sensitive mass locations specified in drawing 78051-136, revision A or its equivalent and be mounted as shown with adaptor assembly 78051-116, revision D for assembly into 78051-218, revision [R].

(f) The chest deflection transducer shall have the dimensions and response characteristics specified in drawing 78051-342, revision A or equivalent and be mounted in the chest deflection transducer assembly 87051-317, revision A for assembly into 78051-218, revision [R].

(g) The thorax and knee impactor accelerometers shall have the dimensions and characteristics of Endevco Model 7231c or equivalent. Each accelerometer shall be mounted with its sensitive axis colinear with the pendulum's longitudinal centerline.

(h) The femur load cell shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing 78051-265 or its equivalent and be mounted in assemblies 78051-46 and -47 for assembly into 78051-218, revision [R].

(i) The outputs of acceleration and force-sensing devices installed in the dummy and in the test apparatus specified by this part are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211, JUN 1980, "Instrumentation for Impact Tests," with channel classes as follows:

- (1) Head acceleration—Class 1000
- (2) Neck force—Class 60
- (3) Neck pendulum acceleration—Class 60
- (4) Thorax and thorax pendulum acceleration—Class 180
- (5) Thorax deflection—Class 180
- (6) Knee pendulum acceleration—Class 600
- (7) Femur force—Class 600

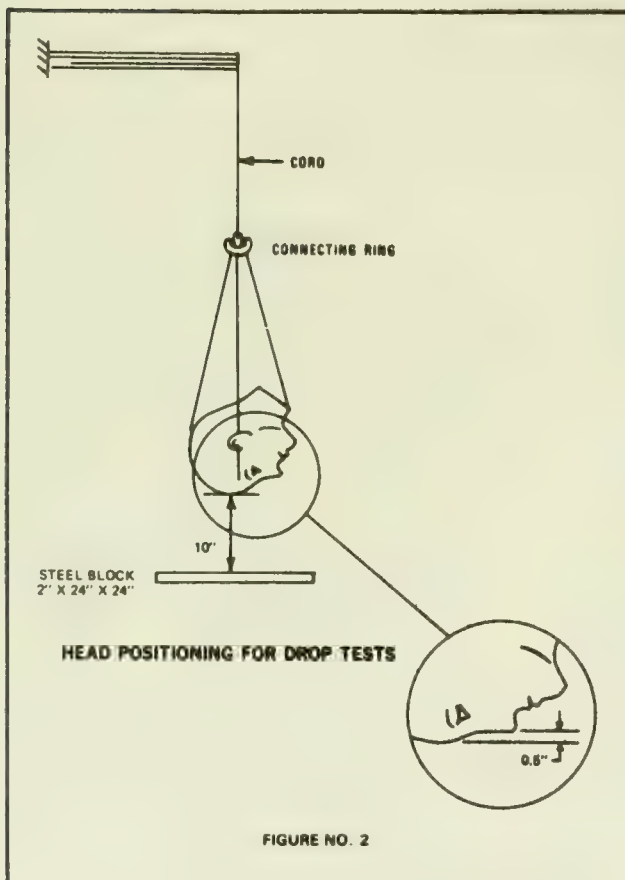
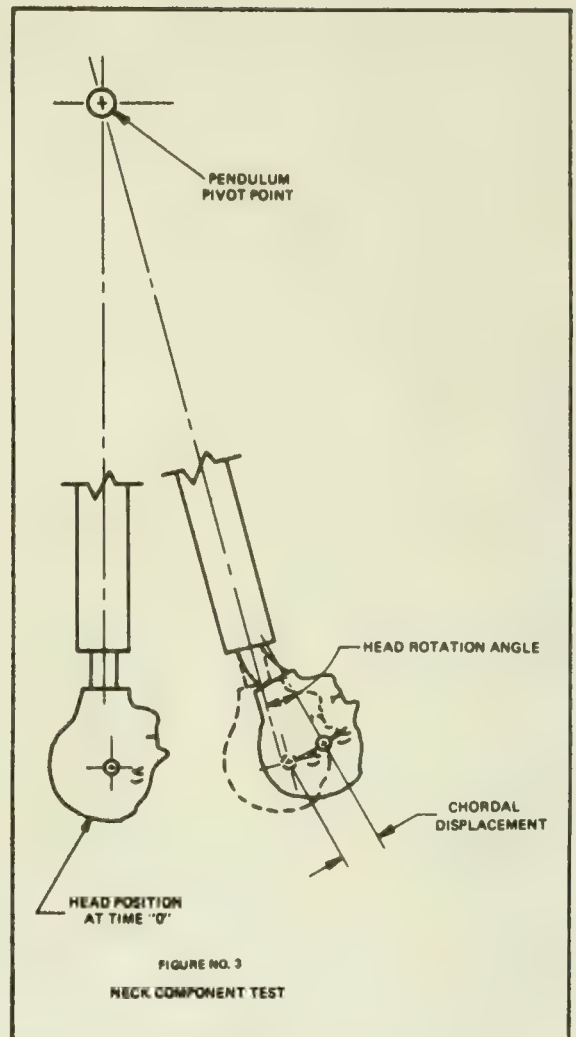
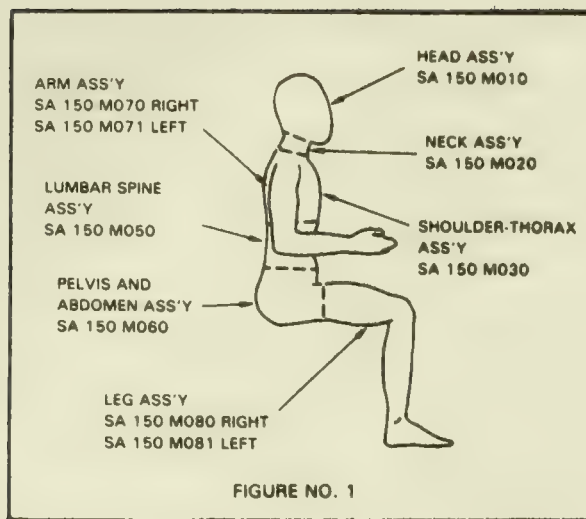
(j) Coordinate signs for instrumentation polarity conform to the sign convention shown in the document incorporated by §572.31(a)(5).

(k) The mountings for sensing devices shall have no resonance frequency within range of 3 times the frequency range of the applicable channel class.

(l) Limb joints are set at lg, barely restraining the weight of the limb when it is extended horizontally. The force required to move a limb segment shall not exceed 2g throughout the range of limb motion.

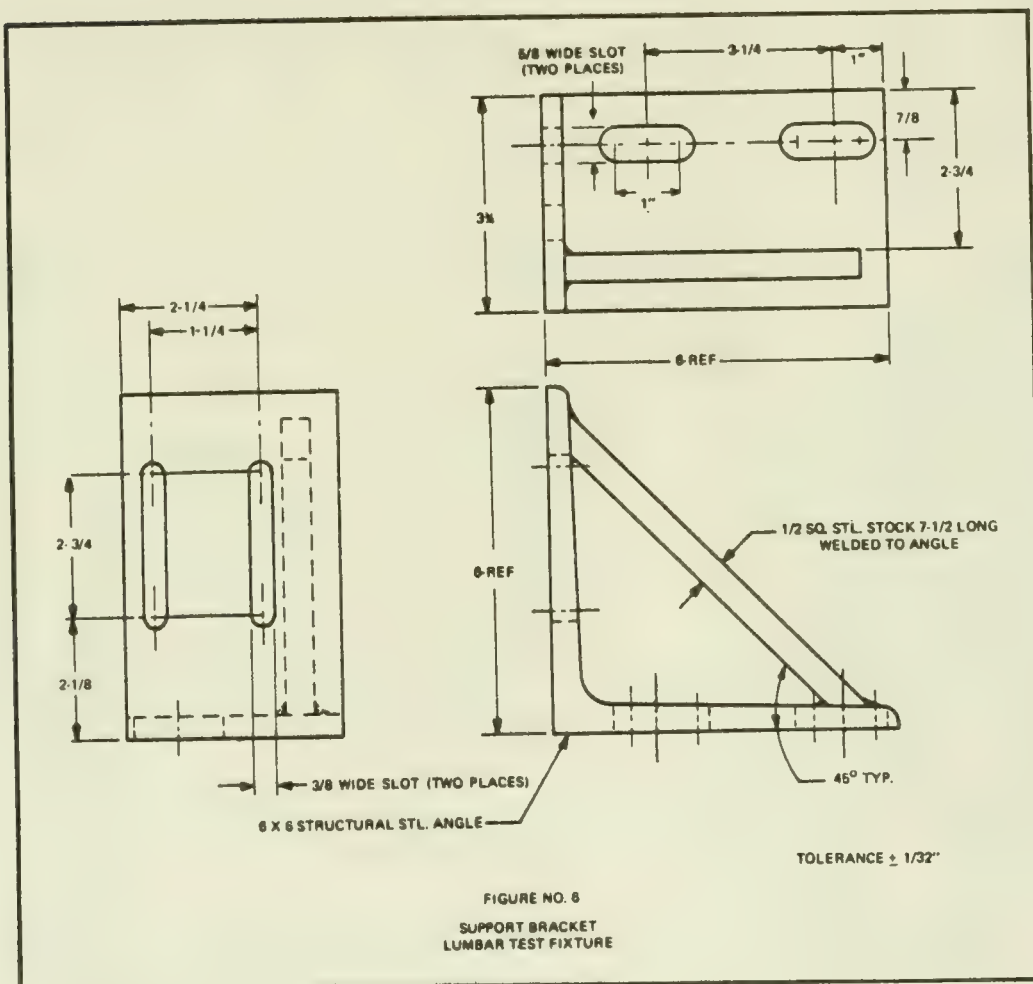
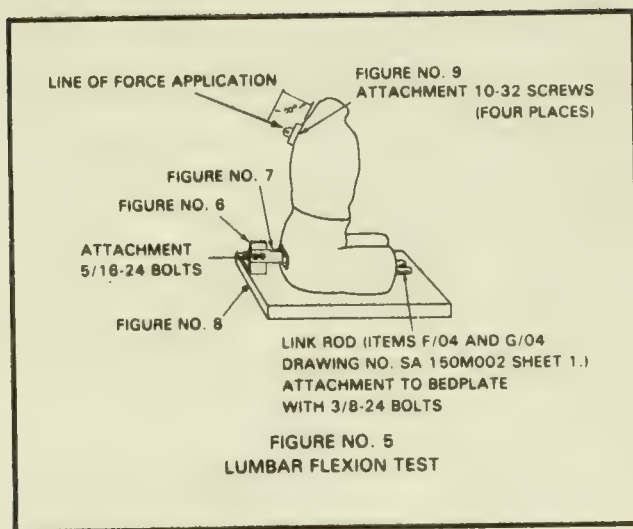
(m) Performance tests of the same component, segment, assembly, or fully assembled dummy are separated in time by a period of not less than 30 minutes unless otherwise noted.

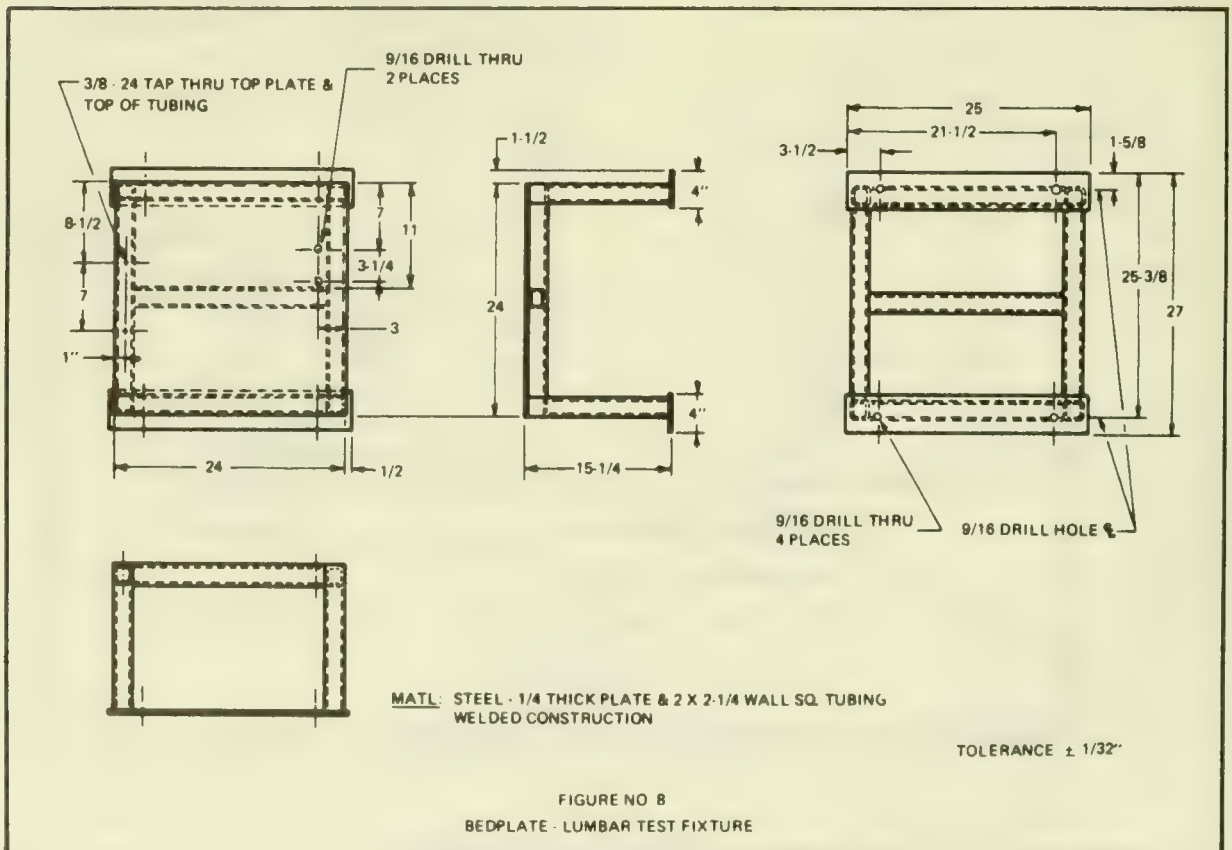
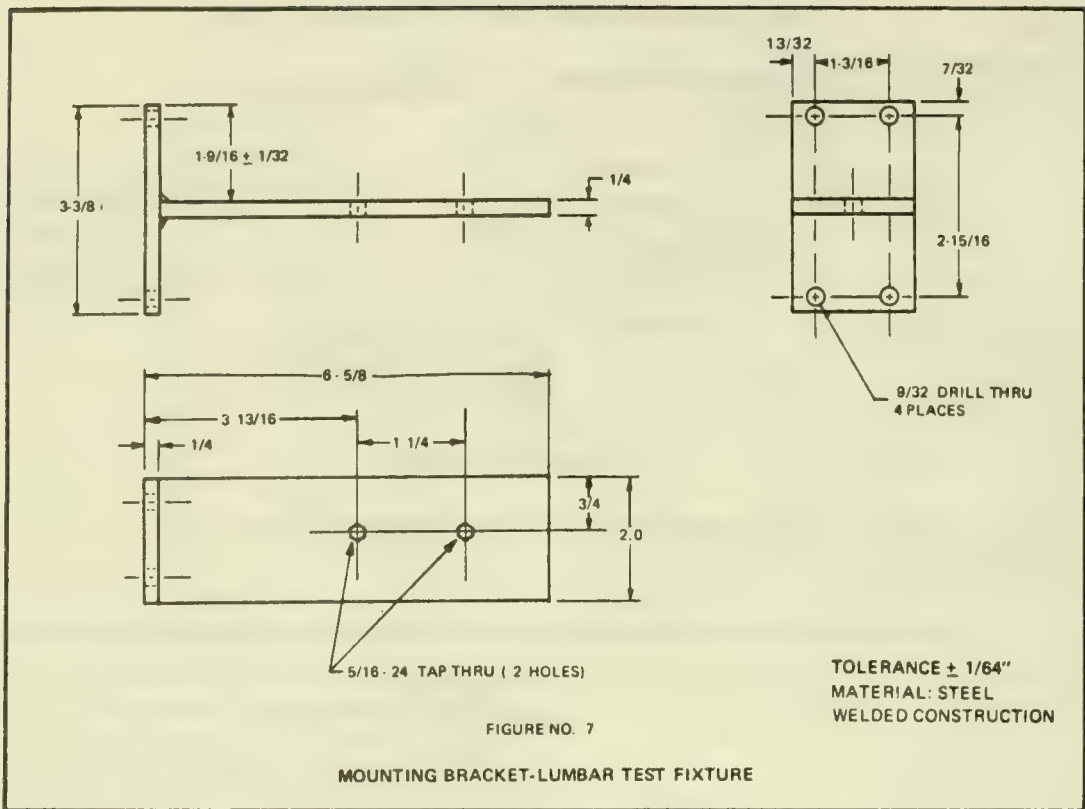
(n) Surfaces of dummy components are not painted except as specified in this part or in drawings subtended by this part. (53 F.R. 8755—March 17, 1988. Effective: March 17, 1988)

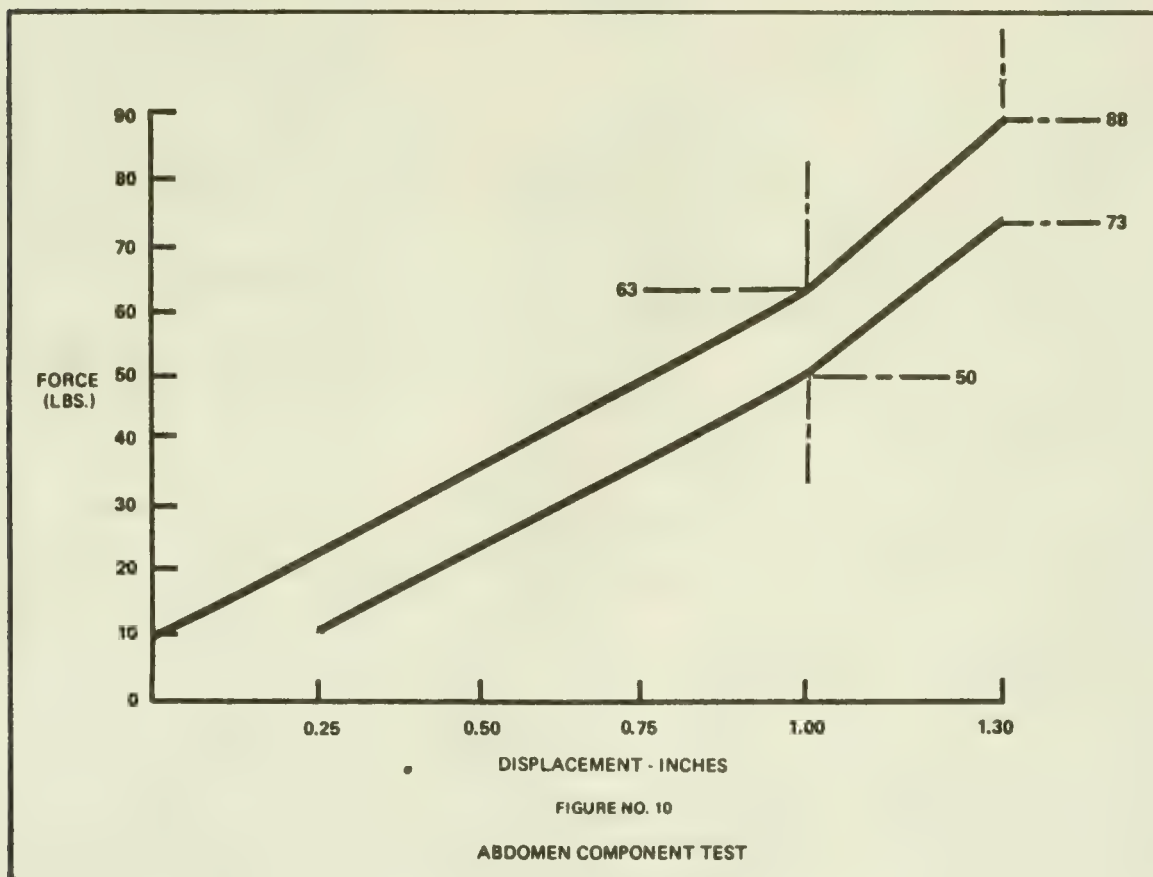
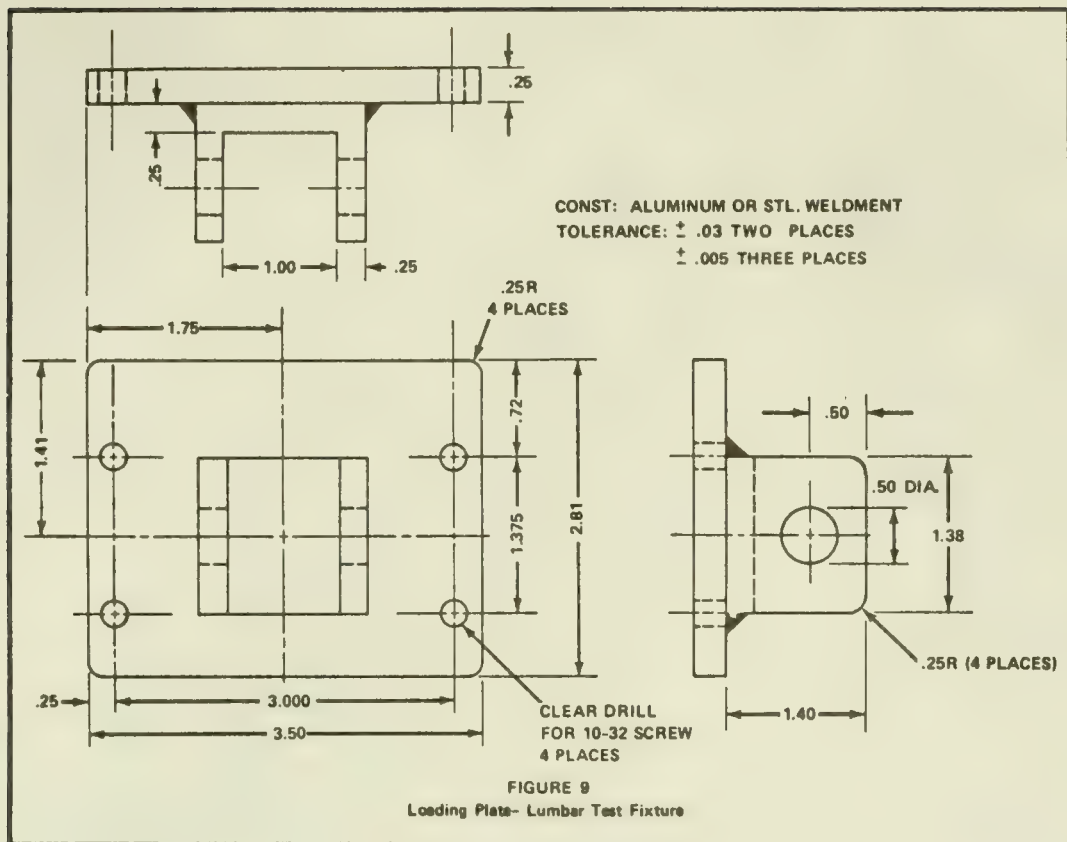


MOMENT OF INERTIA 24.5 LB-FT SEC²
ABOUT PIVOT AXIS









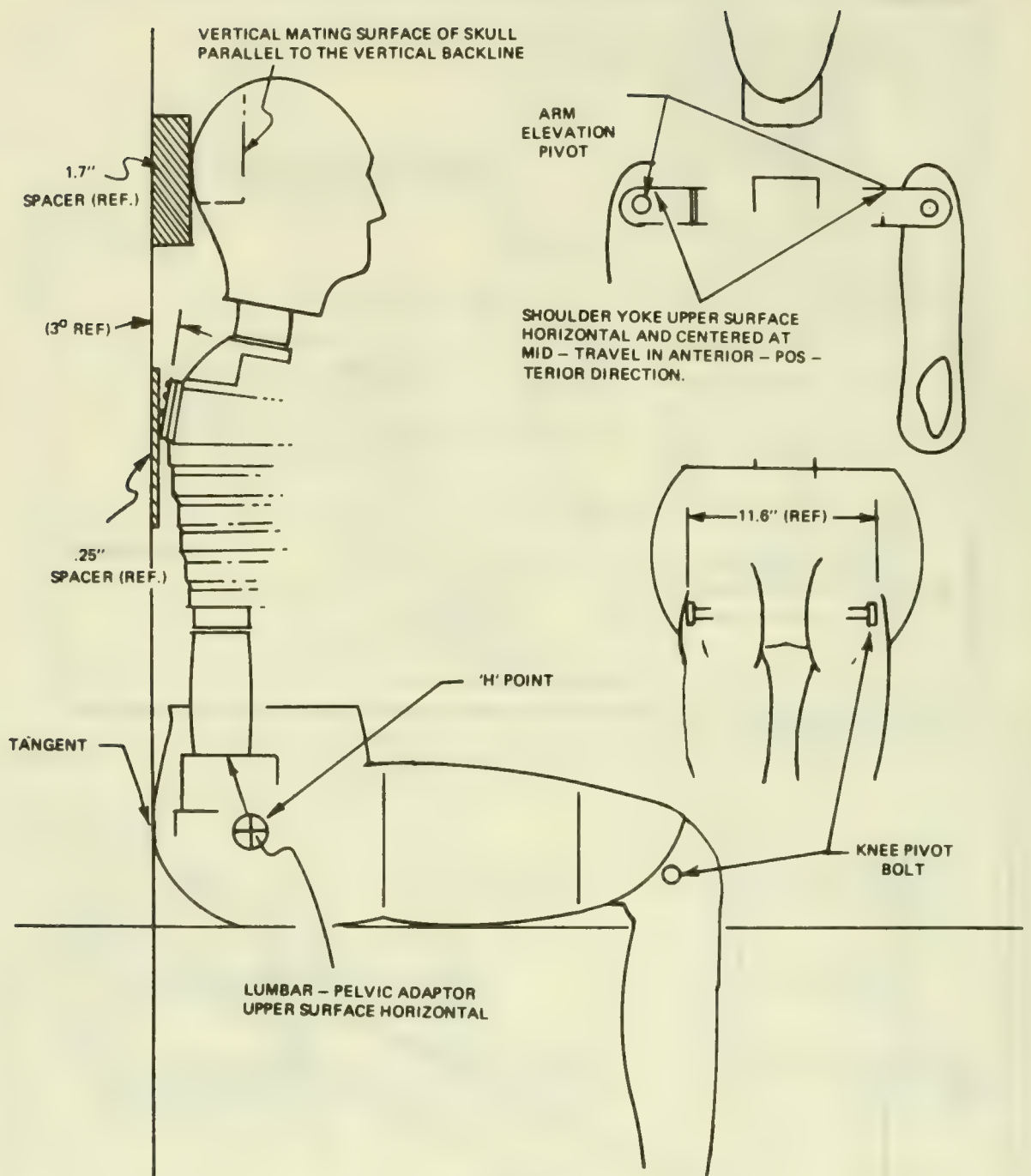


FIGURE No. 11

UPRIGHT SEATED POSITION FOR LINEAR MEASUREMENTS

**Space for figures 12 thru 14
reserved for future use.**

INERTIAL PROPERTIES OF PENDULUM
WITHOUT TEST SPECIMEN.
WEIGHT 65.2 LBS.
MOMENT OF INERTIA 24.5 LB-FT SEC²
ABOUT PIVOT AXIS

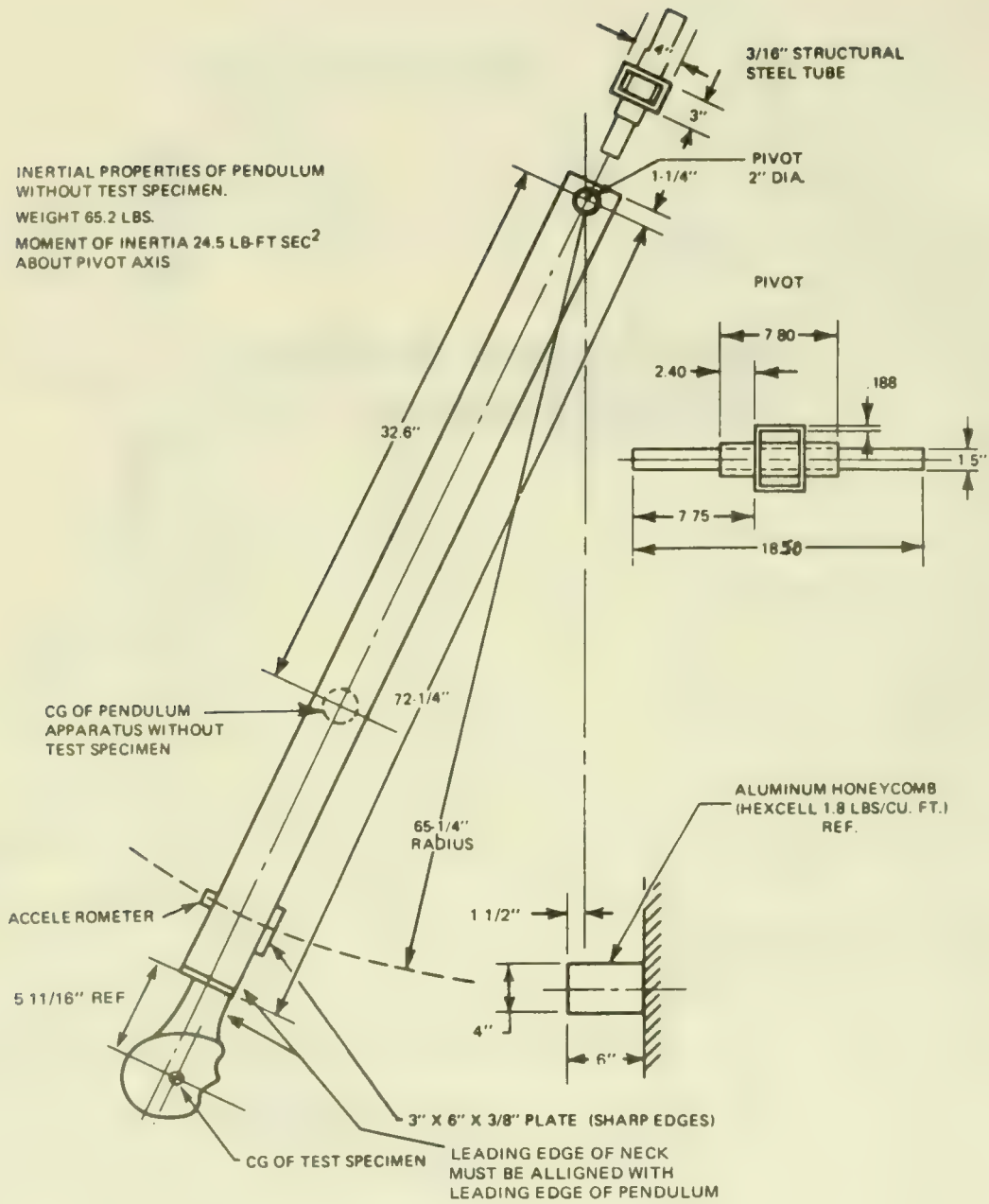


FIGURE NO. 15
NECK COMPONENT TEST

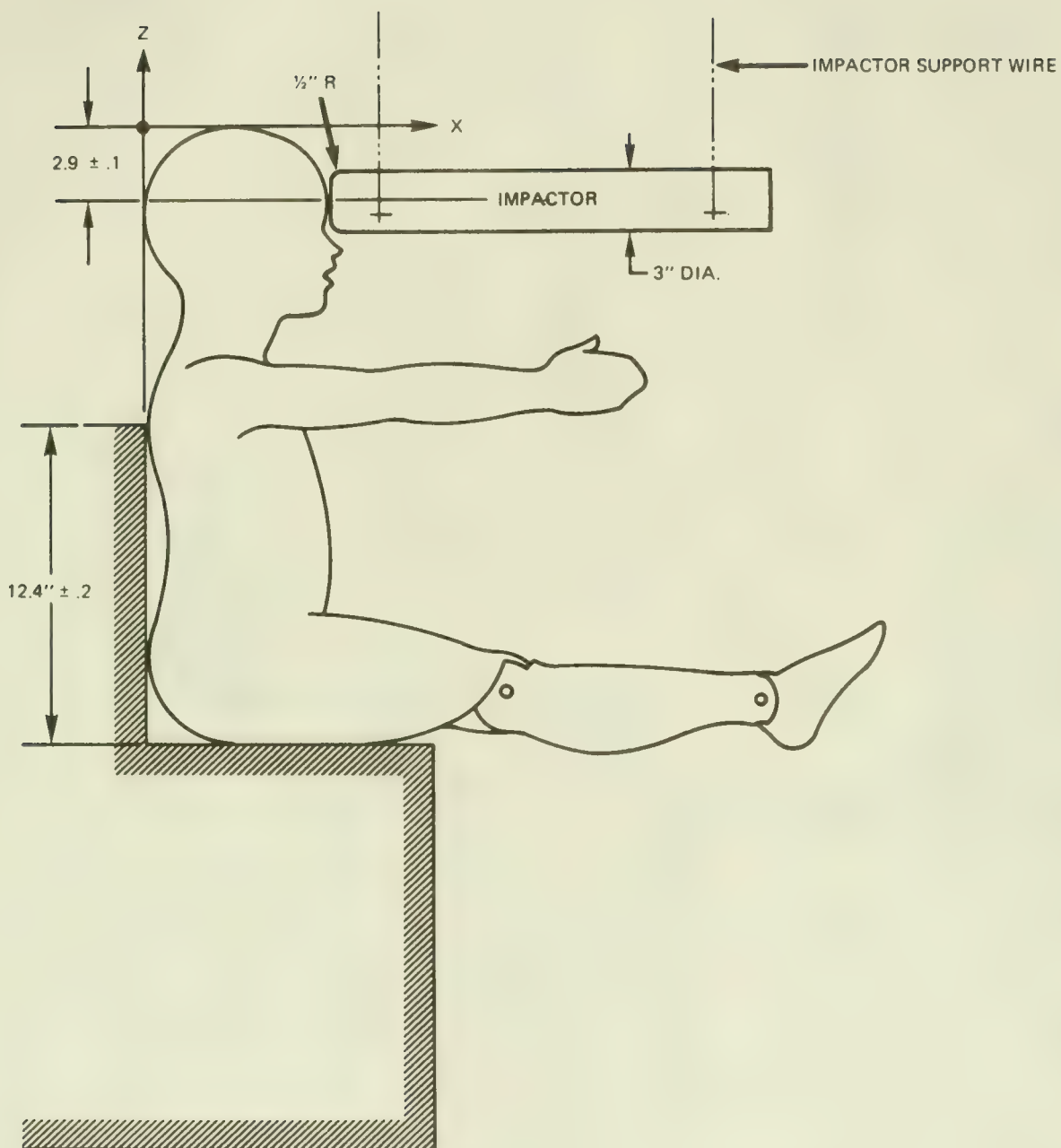


FIGURE NO. 16
HEAD IMPACT TEST

IMPACTOR FACE TO BE VERTICAL $\pm 2^\circ$
AT CONTACT OF CHEST

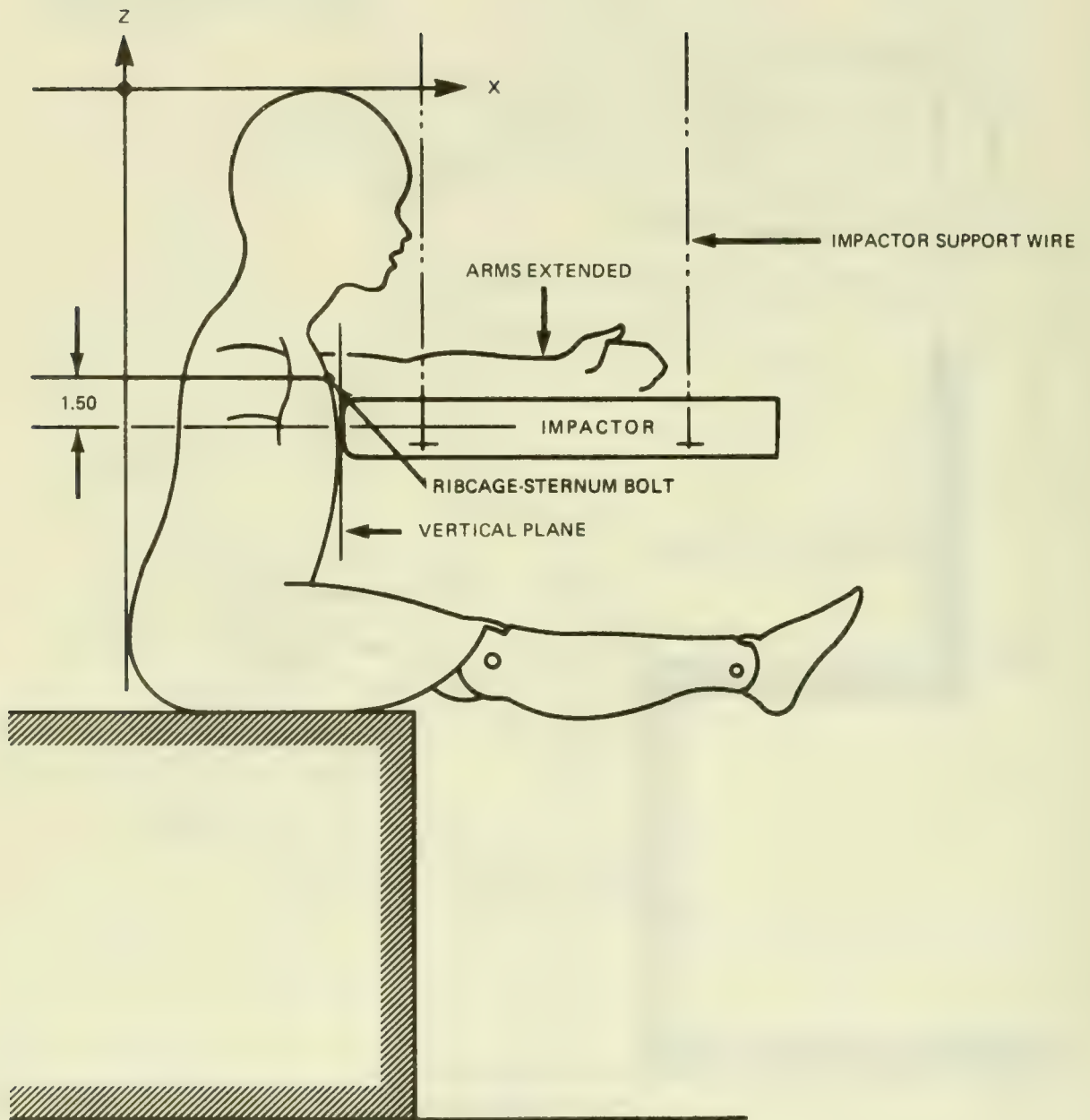


FIGURE NO. 17
CHEST IMPACT TEST

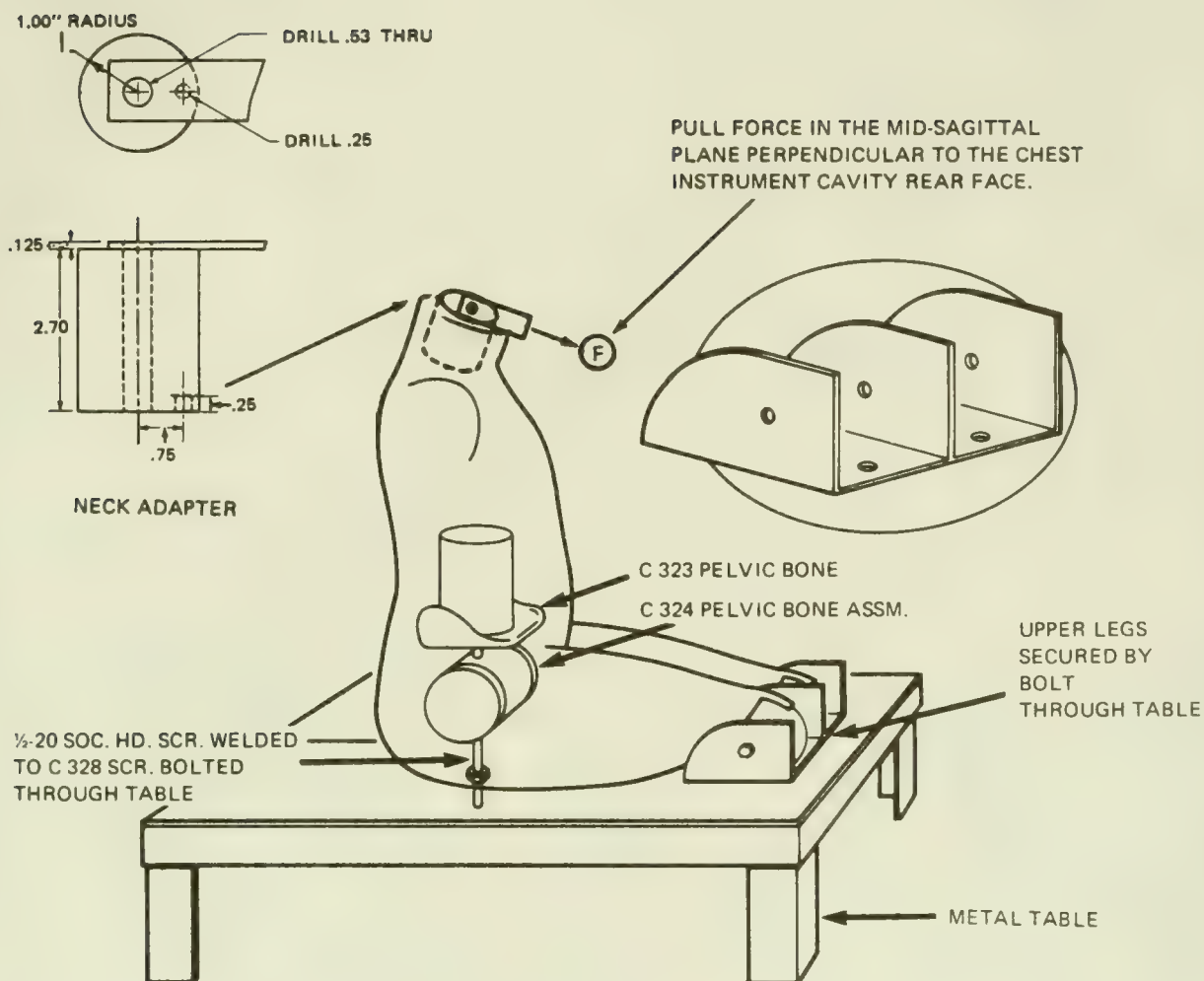


FIGURE NO. 18
LUMBAR-SPINE FLEXION TEST

PREAMBLE TO PART 573—DEFECT REPORTS

(Docket No. 69-31; Notice No. 2)

On December 24, 1969, a notice of proposed rulemaking entitled, "Defect Reports", was published in the *Federal Register* (34 F.R. 20212). The notice proposed requirements for reports and information regarding defects in motor vehicles, to be submitted to the National Highway Traffic Safety Administration by manufacturers of motor vehicles pursuant to sections 112, 113, and 119 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1401, 1402, and 1407).

The notice requested comments on the proposed requirements. All comments received have been considered and some are discussed below.

Several comments asked whether both the fabricating manufacturer and the importer of imported vehicles were required to comply with all the proposed requirements. A similar question was asked in regard to manufacturers of incomplete vehicles and subsequent manufacturers of the same vehicles. In response to the comments, § 573.3 provides that in the case of imported vehicles, compliance by either the fabricating manufacturer or the importer of the imported vehicle with §§ 573.4 and 573.5 of this part, with respect to a particular defect, shall be considered compliance by both. In the case of vehicles manufactured in two or more stages, compliance by either the manufacturer of the incomplete vehicle or one of the subsequent manufacturers of the vehicle with §§ 573.4 and 573.5 of this part, with respect to a particular defect, shall be considered compliance by both the incomplete vehicle manufacturer and the subsequent manufacturers.

Many comments requested that the time for the initial filing of the direct information report be increased to allow opportunity for the extensive and complex testing often necessary to determine whether a defect is safety-related. As

proposed, the time for initially filing the report was within 5 days after the discovery of a defect that the manufacturer subsequently determined to be safety-related. In response to these comments, § 573.4(b) provides that the report shall be submitted by the manufacturer not more than 5 days after he or the Administrator has determined that a defect in the manufacturer's vehicles relates to motor vehicle safety.

Several comments requested the deletion of one or more items of information proposed for inclusion in the defect information report. Objections to providing an evaluation of the risk of accident due to the defect, a list of all incidents related to the defect, and an analysis of the cause of the defect were based on the ground that the information would be inherently speculative. The proposed requirements for these three items of information have been deleted. In place of the list of incidents, § 573.4(c)(6) requires a chronology of all principal events that were the basis for the determination of the existence of a safety-related defect. In accordance with the deletion of the list of incidents, the provision in the proposal requiring quarterly reports to contain information concerning previously unreported incidents has also been deleted.

Several comments stated that the requirement in the proposal for the submission of a copy of all communications sent to dealers and purchasers concerning a safety-related defect would create an unreasonable burden on the manufacturers. The comments reported that the manufacturers would be required to submit to the Administration a large volume of useless correspondence between the manufacturers and individual dealers or purchasers. To mitigate this problem, § 573.4(c)(8) provides that the manufacturers shall submit to the Administration only those communications that are sent to more

than one dealer or purchaser. For the same reason, the requirement in § 573.7 that a manufacturer submit a copy of all communications, other than those required under § 573.4(c)(8), regarding any defect, whether or not safety-related, in his vehicles, is also limited to communications sent to more than one person.

Many comments requested that a regular schedule for submitting quarterly reports be established. They suggested that this be accomplished by requiring that the first quarter for submitting a quarterly report with respect to a particular defect be the calendar quarter in which the defect information report for the defect is initially submitted. As proposed, the first quarter began on the date on which the defect information report was initially submitted. Several of these comments also objected to the proposed requirements for submitting both quarterly reports and annual defect summaries on the ground that the latter would be partially redundant. In response to these comments, the proposed requirement for filing a separate series of quarterly reports for each defect notification campaign has been deleted. Instead, § 573.5(a) requires that each manufacturer submit a quarterly report not more than 25 working days after the close of each calendar quarter. The information specified in § 573.5(c) is required to be provided with respect to each notification campaign, beginning with the quarter in which the campaign was initiated. Unless otherwise directed by the Administration, the information for each campaign is to be included in the quarterly reports for six consecutive quarters or until corrective action has been completed on all

defective vehicles involved in the campaign, whichever occurs sooner.

The proposed requirement for filing annual summaries has been deleted. Instead, § 573.5(d) requires that the figures provided in the quarterly reports under paragraph (c) (5), (6), (7), and (8) of § 573.5 be cumulative. In addition, § 573.5(b) requires that each quarterly report contain the total number of vehicles produced during the quarter for which the report is submitted.

Several changes have been made for the purpose of clarification, § 573.4(c)(8) requires that manufacturers submit three copies of the communications specified in that section. In response to questions concerning the use of computers for maintaining owner lists, a reference to computer information storage devices and card files has been added to § 573.6 to indicate that they are suitable. A reference to first purchasers and subsequent purchasers to whom a warranty has been transferred, and any other owners known to the manufacturer, has been added to the same section to make clear that the owner list is required to include both types of purchasers as well as other known owners.

Effective date: October 1, 1971.

Issued on February 10, 1971.

Douglas W. Toms,
Acting Administrator, National Highway Traffic Safety Administration.

36 F.R. 3064

February 17, 1971

PREAMBLE TO AMENDMENT TO PART 573—DEFECT REPORTS

(Docket No. 69-31; Notice 5)

This notice amends the Defect Reports regulation (49 CFR Part 573) to require manufacturers to submit vehicle identification numbers as part of the information furnished by them to the NHTSA. A notice of proposed rulemaking regarding this subject was published November 7, 1972 (37 F.R. 23650).

The purpose of including VIN's in defect reports would be to improve the notification of owners of vehicles involved in safety defect notification campaigns. The State Farm Insurance Company had suggested, for example, that insurance companies could use VIN's to identify vehicles which they insure, and to themselves notify owners of record. The Center for Auto Safety also requested the inclusion of VIN's in defect reports, so it could more readily inform persons who inquire whether particular vehicles were subject to campaigns. Other possible uses, it was noted, would be that State and local inspection facilities could determine, as part of inspection programs, whether particular vehicles had been subjected to campaigns, and if so, whether they had been repaired.

The proposal would have required the submission in the "defect information report" (§ 573.4), within five days of the defect determination, of the vehicle identification number for each vehicle potentially affected by the defect. It also proposed to substitute "line" for "model" as one of the identifying classifications describing potentially affected vehicles.

The comments demonstrated that the vehicle identification number is a useful tool for locating second and later owners of vehicles. In a study conducted by the Ford Motor Company and the State Farm Insurance Company, a fairly significant percentage of owners who either had not received or responded to the initial notification

mailed by the manufacturer did respond to subsequent letters sent on the basis of the VIN.

As a result of comments received, however, the NHTSA has decided that vehicle identification numbers should only be required to be supplied in the second "quarterly report", approximately six months after a campaign is initiated, rather than in the defect information report as proposed. Only the VIN's for vehicles not repaired by that date are required to be provided. The NHTSA believes this approach will provide the safety benefits to be derived from having publicly available lists of defective vehicle VIN's and will also reduce duplication and facilitate the agency's efforts to compile and report the information.

The NHTSA requests that vehicle identification numbers be submitted in a form suitable for automatic data processing (magnetic tape, discs, punched cards, etc.) when more than 500 numbers are reported for any single campaign. While not required by this notice, the use of automatic data processing for large campaigns will facilitate the dissemination of the information for the agency. The agency may include specific requirements in this regard at a later time.

The comments argued that the benefits of having VIN's available during the initial stages of a campaign are limited, and that the compilation of identification numbers for every vehicle in a campaign would create significant problems for manufacturers related to conducting campaigns. The NHTSA believes these comments to have merit. It is clear that the chief use of VIN's will be to notify other than first purchasers, *i.e.*, owners of older vehicles, as the names of these owners will not be available to manufacturers. By delaying the furnishing of VIN's until the filing of the second quarterly report, the VIN's reported will represent to a greater

degree the names and addresses of second and later owners. The later reporting will also reduce the possibility that first purchasers will receive duplicate notices.

Many comments challenged generally the utility of the VIN in notification campaigns. Other comments complained that insurance companies might abuse the information; for example, by cancelling policies on defective vehicles. Still others believed VIN's to be privileged proprietary information, both taken separately and when combined with other information submitted pursuant to Part 573.

While it is true that the effectiveness of the requirement will depend to an extent upon the voluntary activities of third parties, the NHTSA does not view this as a reason not to issue the requirement. The offers of insurance companies and other groups to participate in notification campaigns appear to be reasonable and properly motivated. There has been no evidence brought to the NHTSA's attention to support the allegations of possible misuse of the information by insurance companies.

The agency also cannot agree that information identifying defective vehicles is or relates to proprietary information. The comments on this point seem to equate what may be embarrassing information with notions of confidentiality.

There is no basis under existing statutory definitions of confidentiality for including within them VIN's or other information identifying defective vehicles.

The proposed substitution of "line" for "model" in the descriptive information for vehicles was opposed in one comment because the term "line" is apparently more suited for passenger cars than other vehicle types. The comment indicated that "model" is a more appropriate term for trucks. In light of this comment, the terms are specified as alternatives in the regulation.

In light of the above, Part 573 of Title 49, Code of Federal Regulations, "Defect Reports," is amended. . . .

Effective date: May 6, 1974.

(Sections 103, 112, 113, and 119, Pub. L. 89-563, 80 Stat. 718; 15 U.S.C. 1392, 1401, 1402, 1407, and the delegation of authority at 49 CFR 1.51 Office of Management and Budget Approved 04-R5628.)

Issued on January 30, 1974.

James B. Gregory
Administrator

39 F.R. 4578
February 5, 1974

PREAMBLE TO AMENDMENT TO PART 573—DEFECT REPORTS

(Docket No. 69-31; Notice 6)

This notice responds to petitions for reconsideration of the amendment of 49 CFR Part 573, "Defect Reports," requiring the submission to NHTSA of the vehicle identification numbers (VIN) of motor vehicles found to contain safety related defects. The amendment was published February 5, 1974 (39 F.R. 4578). Except insofar as granted by this notice, the requests of the petitioners are denied.

Two petitions for reconsideration, one from General Motors Corporation and the other from Chrysler Corporation, were received. Both petitions objected to the requirement that VIN's be reported in the second quarterly report filed subsequent to the initiation of the defect notification campaign. Both pointed out that the NHTSA had stated in the amendment published February 5, 1974, that it was desirable to defer reporting VIN's until six months had passed from the time a notification campaign had begun. Both petitioners argued that the time for filing the second quarterly report is frequently less than six months, and suggested that the third quarterly report rather than the second was the more appropriate quarterly report to contain vehicle identification numbers. General Motors indicated that the average elapsed time from the initiation of a notification campaign to the filing of the second quarterly report is four and one-half months, while the elapsed time until the filing of the third quarterly report is, on the average, seven and one-half months. The NHTSA still believes it reasonable to allow a six-month period from the initiation of the campaign to elapse before VIN's are submitted. Accordingly, the NHTSA has granted the petitions insofar as they request that VIN's be reported in the third quarterly report submitted to NHTSA by the manufacturer.

Chrysler objected to the VIN reporting requirement generally, on the basis that it is unnecessary and will not produce the desired results. It is requested that an evaluation of the usefulness of the requirement be conducted after it is in effect, and that appropriate modifications be made if the requirement fails to achieve the desired results. General Motors requested that NHTSA maintain a public record of requests for VIN's so that future consideration can be given to the extent that the data is useful, and to whom it is useful. The NHTSA believes that public availability of VIN's will facilitate locating and repairing defective vehicles no longer in the hands of first purchasers. At the same time it agrees to conduct an evaluation of the efficacy of the requirement once it is in effect. The extent of usage is a relevant aspect of an evaluation of this type, and the NHTSA sees no prohibition against maintaining a public record of requests for the information.

The amended regulation will be effective August 6, 1974, and as such will require all third quarterly reports submitted to NHTSA on or after that date to contain appropriate vehicle identification numbers. The effective date has been changed from May 6, 1974, as a result of the change requiring the third rather than the second quarterly report to contain VIN's. As a practical matter, VIN's will be required to be reported in the third quarterly report for all defect notification campaigns initiated on or after January 1, 1974 (NHTSA campaign numbers 74-0001 and subsequent campaigns).

In light of the above, 49 CFR Part 573, Defect Reports, is amended by revising § 573.5(e)

Effective date: August 6, 1974.

(Secs. 103, 112, 113, and 119, Pub. L. 89-563, 80 Stat. 718; 15 U.S.C. 1392, 1401, 1402, 1407, and the delegation of authority at 49 CFR 1.51; Office of Management and Budget approved 04-R5628.)

Issued on May 6, 1974.

Gene G. Mannella
Acting Administrator

39 F.R. 16469

May 9, 1974

PREAMBLE TO AMENDMENT TO PART 573—DEFECT REPORTS

(Docket No. 74-7; Notice 2)

This notice amends Part 573—"Defect Reports" by revoking the requirement that manufacturers of motor vehicles report quarterly to the National Highway Traffic Safety Administration production figures for vehicles manufactured or imported during the calendar quarter. A notice of proposed rulemaking in which this amendment was proposed was published January 15, 1974 (39 FR 1863).

The NHTSA is revoking the requirement for the reporting of quarterly production figures because it has found that the value of the information has not justified the burden on manufacturers of providing it. This amendment will eliminate the need for manufacturers to file quarterly reports unless they are conducting notification campaigns during the calendar quarter.

The notice of proposed rulemaking of January 15, 1974, proposed to extend the applicability of the Defect Reports regulations to include manufacturers of motor vehicle equipment, and to modify the information required to be reported. Since the issuance of this proposal, Congress has amended sections of the National Traffic and Motor Vehicle Safety Act which deal with manufacturers' responsibilities for safety related defects in motor vehicles and motor vehicle equipment. (Pub. L. 93-492, Oct. 27, 1974) These amendments to the Safety Act in part enlarge the responsibilities of manufacturers of motor vehicle equipment for safety related defects. Ultimately the Defect Reports regulations will reflect completely the expanded scope of the statutory amendments. While the language of

the proposed rule of January 15, 1974, is in most cases sufficiently broad to reflect these statutory changes, the scope of the proposal under the previous language of the Safety Act is materially different. Consequently, the NHTSA has decided to issue a further notice, with opportunity for public comment, that specifically reflects the expanded scope of the statutory amendments. This notice will be issued at some time following the effective date (December 26, 1974) of the statutory amendments.

The NHTSA has determined, however, that relief from the production-figures reporting requirements should not be further deferred, and by this notice deletes those requirements from the Defect Reports regulation.

In light of the above, 49 CFR Part 573, Defect Reports, is amended by revoking and reserving paragraph (b) of section 573.5 ("Quarterly reports").

Effective date: December 10, 1974. This amendment relieves a restriction and imposes no additional burden on any person. Consequently good cause exists and is hereby found for an effective date less than 30 days from publication.

(Secs. 108, 112, 113, 119, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1397, 1401, 1402, 1408; delegation of authority at 49 CFR 1.51)

Issued on December 4, 1974.

James B. Gregory
Administrator

39 F.R. 43075

December 10, 1974

PREAMBLE TO AMENDMENT TO PART 573—DEFECT AND NONCOMPLIANCE REPORTS

(Docket No. 74-7; Notice 4)

This notice amends Part 573, *Defect and Non-compliance Reports*, by adding reporting requirements for equipment manufacturers and altering somewhat the requirements for vehicle manufacturers as authorized by the 1974 Motor Vehicle and Schoolbus Safety Amendments. The amended regulation requires the submission of reports to the agency concerning defects and noncompliance with safety standards and specifies the information to be included in those reports.

Effective date: January 25, 1979.

Addresses: Petitions for reconsideration should refer to the docket number and be submitted to: Room 5108, Nassif Building, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

For further information contact:

Mr. James Murray, Office of Defects Investigation, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-2840)

Supplementary information:

This notice amends Part 573, *Defect and Non-compliance Reports*. A notice of proposed rule-making was published on September 19, 1975 (40 F.R. 43227), proposing new requirements for vehicle and equipment manufacturers regarding submittal to the NHTSA of defect and noncompliance reports as authorized by the Motor Vehicle and Schoolbus Safety Amendments of 1974 (the Amendments) (Pub. L. 93-492).

Sections 151 to 160, or Part B of the Amendments alter the defect notification requirements of the National Traffic and Motor Vehicle Safety Act of 1966 ("the Act") (15 U.S.C. 1381 *et seq.*). These Amendments require manufacturers of motor vehicle replacement equipment to notify purchasers and to remedy any defects or noncompliances following the manufacturer's or the

Administrator's determination that the equipment contains either a defect which relates to motor vehicle safety or a noncompliance with an applicable Federal motor vehicle safety standard. Prior to the enactment of these provisions, manufacturers of motor vehicle equipment were responsible under the Act for notification of defects or noncompliances only following a determination by the National Highway Traffic Safety Administrator that the item of equipment contained a safety-related defect or failed to comply (Sec. 113(e), Pub. L. 89-563, 15 U.S.C. 1402).

Comments on the proposal were received from manufacturers, safety organizations, and manufacturer representatives. The Vehicle Equipment Safety Commission did not submit comments. All comments were considered and the most significant ones are discussed below.

I. Scope.

Several manufacturers objected to the scope of the regulation indicating that it exceeded the agency's authority to regulate vehicle and equipment manufacturers. For example, manufacturers alleged that the agency only has authority over safety-related defects and accordingly should restrict the defects mentioned in this section to safety-related defects. Further, many equipment manufacturers apparently thought that they would be required to retain purchaser and owner lists of all vehicles containing items of their equipment.

The intent of this regulation is not to impose upon equipment manufacturers recordkeeping requirements for all equipment that they manufacture. This regulation merely imposes limited recordkeeping requirements for that equipment which is determined to be defective or in noncompliance. In other words, an equipment manufacturer, after discovery of a defect or

noncompliance, would ascertain from a vehicle manufacturer the identity of the vehicles and vehicle owners possessing the affected equipment. Notification would then be sent to those owners. The NHTSA would require that the equipment manufacturer retain the records of those sent notice of the defect.

Several manufacturers requested that the agency limit the applicability of this regulation to safety-related defects. They argued that the NHTSA has no authority to require information pertaining to non-safety-related defects. Section 158 of the Act specifically authorizes the agency to require information on any defect, whether or not safety-related, in order to enable it to undertake defect investigations which permit a determination regarding the safety-related nature of the defect. Much of this regulation pertains only to safety-related defects and each section indicates whether it applies to all defects or only those that are safety related.

II. Application.

Many manufacturers complained about the use of the term "direct control" in Section 573.3(a). Some manufacturers contended that the use of the term was unnecessary. Importers contended that they should not be required to submit reports where a defect is identified before the vehicles leave their direct control since the Act considers them to be manufacturers and they would be in direct control of vehicles being imported. The Center for Auto Safety would have the agency drop the term and replace it with "beyond their place of final manufacture."

In the notice of proposed rulemaking, the NHTSA indicated the reasoning for excluding vehicles and equipment within the "direct control" of the manufacturer from the reporting requirements. Vehicles and equipment within the direct control of manufacturers are virtually assured of remedy of any defect or noncompliance, because they are still within the physical possession of the manufacturer. In the NPRM it was noted that direct control does not include in the possession of a dealer or distributor. For vehicles and equipment possessed by those entities, reports concerning defects or noncompliance would be required to be submitted to the agency. The agency declines to adopt the suggestion of the

Center for Auto Safety for reasons explained in the NPRM. The phrase "beyond the place of final manufacture" is not broad enough to handle all instances where vehicles are still within the direct control of the manufacturer. For example, vehicles might be stored on a manufacturer's lot far removed from the place of manufacture. Nonetheless, these vehicles are still within the direct control of the manufacturer. Therefore, the agency concludes that the term "direct control" best accomplishes the objective of providing a limited exclusion from the reporting requirements. The agency agrees with importers that since they are considered manufacturers under the Act, vehicles that manifest defects while they are within their direct control are excluded from the reporting requirements.

Some manufacturers apparently misunderstood the requirements of Section 573.3(d). Manufacturers indicated that reports should be required to be filed either by the brand name owner or the manufacturer, not by both. The section as written permits this. Compliance with the reporting requirements by the brand name owner shall be considered compliance by the manufacturer. Either one is permitted to submit the required reports. The Act treats tire brand name owners as manufacturers. Therefore, the wording of this section has been changed to reflect the responsibility of tire brand name owners.

Several commenters requested that the name of fabricating manufacturers not be submitted since this might cause competitive disadvantage to the brand name or trademark owner. The NHTSA finds it a legitimate need to know the actual manufacturer of a product. That manufacturer could, for example, be manufacturing the same or similar components for other brand name or trademark owners. The agency would need this information to ensure that all potentially defective or noncomplying equipment is remedied.

Many manufacturers complained of the requirements in Section 573.3(f) that reports be filed both by the equipment manufacturer and the vehicle manufacturer where an equipment manufacturer's equipment has been used by more than one vehicle manufacturer. Manufacturers stated that this requirement is duplicative and costly, providing identical information from both

sources. The NHTSA stated in the NPRM that this issue had been thoroughly considered prior to the issuance of the NPRM. It has again been explored by the agency in response to these comments and the agency concludes that the dual reporting requirement for the 573.5 report is necessary. Reports submitted by equipment and vehicle manufacturers will have different information in them. In both cases, the information is of importance to the agency in pursuing its defects and noncompliance obligations. Therefore, this requirement has been retained. It should be reaffirmed for clarity that where an equipment manufacturer's equipment is used in vehicles of only one vehicle manufacturer, reports need only be submitted by that vehicle manufacturer.

On a related matter, the NHTSA agrees that reports required under Section 573.6 need not be filed by both vehicle and equipment manufacturers. These reports need only be filed by the manufacturer undertaking the recall. Section 573.3(f) has been amended to reflect this change.

Other commenters on this section indicated their disapproval of the shared responsibility for remedying defects and noncompliance between vehicle and equipment manufacturers. Section 573.3 places certain reporting responsibilities upon both equipment and vehicle manufacturers, depending upon the nature of the defect. For the most part, vehicle manufacturers are responsible for reports relating to defects or noncompliance in their vehicles while equipment manufacturers are responsible for reports on their defective or noncomplying equipment. In those instances where a defect or noncompliance is discovered in equipment installed in the vehicles of more than one vehicle manufacturer, both the equipment and vehicle manufacturers must report. Equipment manufacturers suggested that vehicle manufacturers should be responsible for defects and noncompliance reports while vehicle manufacturers want to place the burdens upon equipment manufacturers. The NHTSA adopted the present scheme of shared responsibility between vehicle and equipment manufacturers for compliance with agency regulations in response to the 1974 Amendments. Congress indicated in those amendments that equipment and vehicle manufacturers should share the burden of rem-

edying defects in their equipment and vehicles. The NHTSA concludes that the reporting requirements outlined in this regulation implement the basic intent of those Amendments.

III. Definitions.

Many commenters objected to the definitions of original and replacement equipment. Further, some of these commenters indicated that the NHTSA had little, if any, authority to place responsibility on an original equipment manufacturer, since Section 159 of the Act makes the vehicle manufacturers responsible for original equipment. The NHTSA has deleted the definitions of original and replacement equipment from Part 573 since both terms are defined in Part 579. The NHTSA notes that with respect to the authority to place responsibility for defects or noncompliance upon original equipment manufacturers rather than the vehicle manufacturer, Section 159 states that the Act's defect and noncompliance scheme of responsibility shall be controlling unless otherwise provided by regulation. Therefore, the NHTSA does have the authority to shift the responsibility from the vehicle manufacturer to the equipment manufacturer if it determines that such alteration will advance the efficiency of enforcement actions. Part 579, *Defect and Noncompliance Responsibility*, outlines the responsibilities of the various manufacturers and defines "replacement" and "original" equipment.

Commenters also requested that the agency define the term "safety-related defect" so as to clarify the agency's intent in this area. The NHTSA has in the past rejected requests to establish a specific definition of safety-related defect. Whether or not a defect is safety-related depends upon a variety of factors and must be ascertained based upon the circumstances of each separate case. Thus, a specific definition cannot feasibly be created.

Ford Motor Company argued that the agency's preambular discussion tended to indicate that the definition of "first purchaser for purposes other than resale" would include the dealer or distributor. This was not the intent of the regulation. "First purchaser" is based on a similar statutory term and has been used by the agency for years with a specific meaning. The first purchase oc-

curs where the purchaser does not buy the vehicle with the purpose of reselling it. Obviously, sale of a vehicle to a dealer presupposes that the dealer intends to resell the vehicle to the ultimate consumer or purchaser. Therefore, sale to a dealer would not constitute the sale to the first purchaser for purposes other than resale. The use of the term first-purchaser list in the preamble of the proposal in reference to the lists required to be retained by equipment manufacturers was a colloquial use of the term rather than its more precise meaning under the Act.

IV. Defect and noncompliance information reports.

Prestolite Company interpreted the requirements of Section 573.5(a) to mean that they would be required to file a report with the NHTSA every time a defective piece of equipment was brought to their attention, since there is no specific definition of safety-related defect. This they suggested would be a burdensome requirement. Such a requirement is not the intent of this regulation. A manufacturer submits a report to the NHTSA when either it or the agency makes a determination under Section 151 or 152 of the Act that a defect related to motor vehicle safety in fact exists. A failure of a single piece of equipment may not occasion the finding of a safety-related defect. Further, some equipment failures might have no adverse safety effects. Therefore, every failure of equipment will not necessarily require a report to the NHTSA. It is incumbent upon the agency and each manufacturer to make a good faith determination concerning the safety relatedness of any defect before a report under this paragraph is filed.

International Harvester (IH) suggested that a manufacturer should not have to file a report if it intends to file a petition for inconsequentiality. The NHTSA does not agree with this position. The agency needs to know of potential safety-related defects or noncompliances at the earliest possible time. If a manufacturer intends to file a petition for inconsequentiality, it should indicate such in the report as part of the information supplied in accordance with subparagraph (c) (8).

Many manufacturers objected to the 5-day requirement in Section 573.5(b) under which information must be submitted within 5 working days

after a safety-related defect or noncompliance has been discovered. Manufacturers suggested increasing the number of working days and changing the word "submitted" to "mailed." Ford requested that the 5-day period not begin until written notification is received from the NHTSA for agency-initiated determinations.

The agency does not find persuasive arguments for altering the existing 5-working day requirement. The NHTSA needs this information as rapidly as possible to aid expeditious notification and recall. Not all information need be supplied within the 5 working days if some of it is unavailable. The regulation clearly states that any unavailable information would be submitted later as it becomes available. The NHTSA also considers it unnecessary to change the word "submitted" to "mailed." The term "submitted" is broader than "mailed." Information may be submitted by mailing it or delivering it to the agency in person. If mailed, it must be mailed within 5 working days.

With respect to the alleged insufficient time to prepare information in 5 working days, the NHTSA notes that this requirement has existed in Part 573 for several years. Since the requirement has operated smoothly for that period of time, the agency declines to adopt recommendations that would change it.

The NHTSA declines to adopt Ford's recommendation concerning agency-initiated determinations. Agency initiated defect or noncompliance determinations are made after thorough investigations conducted by the NHTSA. A manufacturer is aware of these ongoing investigations, and therefore, it should not be unnecessarily burdened or surprised when the NHTSA makes a determination. Since the need for expeditious action exists after an agency determination and the manufacturer is aware of a pending agency decision, the NHTSA considers it adequate that a manufacturer submit the report in 5 working days after receipt of either written or oral agency notification.

Several equipment manufacturers contended that the requirements of paragraph (c) (2) would impose additional burdens upon them to mark the equipment that they manufacture. Paragraph (c) (2) requires defect and noncompliance reports

to contain certain information that identifies the defective or noncomplying equipment. For example, they argued that the requirements for the date of manufacture of the affected equipment would be burdensome since much of their equipment is not dated according to time of manufacture. Therefore, they suggested that the NHTSA only require date of manufacture information when it is known.

It is important to remember that Part 573 is for the most part a reporting regulation. It is not a recordkeeping or labeling regulation. A manufacturer, under the regulation, only supplies to the NHTSA that information which is available to it. In the case of date of manufacture of equipment, the equipment manufacturer in most instances need not label its equipment in such a manner as to identify its date of manufacture. The regulation merely directs a manufacturer to supply such information to the NHTSA in its reports. Obviously, if a manufacturer does not know the dates of manufacture, it would be unable to supply them to the agency. However, a manufacturer must supply the approximate dates of manufacture if that information is available.

Manufacturers should note that the manufacturing date requirement is included in the regulation for the benefit of the equipment manufacturer. If that manufacturer knows the approximate dates when a defective piece of equipment was produced, then its recall can be limited to equipment manufactured during those dates. On the other hand, a manufacturer without such information might be required to undertake a more extensive recall of its equipment to ensure that all defective products are recalled.

The Center for Auto Safety requested that the NHTSA require motor vehicle manufacturers to submit the vehicle identification numbers (VIN) of vehicles involved in any recall activity. The NHTSA does not require this information in the Part 573.5 reports because the agency normally has no need at the time of the reports issuance for such information. The agency does require the VIN's to be submitted in the Part 573.6 reports for those vehicles that are uncorrected in a manufacturer's recall. In these instances, the agency uses the information to supplement a

manufacturer's recall efforts. Until such time as a manufacturer determines that some vehicles are uncorrected however, the agency usually has little use for VIN information on all recalled vehicles. In those limited instances when VIN information is necessary at the time of submission of the Part 573.5 report, the agency has the ability to request it from a manufacturer.

In regard to paragraph (c)(3), several manufacturers objected to the requirement that the precise number of vehicles or equipment in each category be reported. These manufacturers stated that often this information is not known. The NHTSA agrees and therefore modifies the section to require the submittal of this information when it is known. Chrysler suggested that the agency require the numbers of affected vehicles to be submitted by GVWR breakdown rather than by model. The agency disagrees with this recommendation since it usually undertakes recalls based upon model classification, not upon GVWR categories. Therefore, the submission of information based upon a GVWR classification would not be as useful as a classification based upon vehicle model.

Atlas Supply Company suggested that the agency not require the information specified in paragraph (c)(4) since, for tire manufacturers, tires are destroyed, making the required calculations difficult. Paragraph (c)(4) requires the provision of information that estimates the percentage of defective or noncomplying equipment on vehicles. The NHTSA considers estimates of the amount of affected vehicles or equipment to be necessary to obtain an idea of the scope of the defect or noncompliance problem. Since the section merely requires an estimate, the agency does not consider this to place a difficult burden upon manufacturers.

Many manufacturers complained about the requirements of paragraph (c)(6) which requires the submission of information upon which the determination was made that a safety-related defect exists. These manufacturers indicated that it would impose unreasonable burdens upon manufacturers by requiring them to retrieve a large amount of information in a short period of time and to retain vast amounts of data. The intent of this section is to provide a summary to the NHTSA of the information upon which a

manufacturer based his defect determination. This information, since it has been used by a manufacturer for its determination of a defect, should be readily available to it. The NHTSA notes that the submission of summary information is intended to reduce a manufacturer's burdens. However, the specificity and clarity of information must be maintained, and the agency might require further information if the summary information is inadequate. The NHTSA has reworded the paragraph somewhat to indicate that it is only necessary to submit a summary of the information upon which the determination was based.

Several manufacturers suggested that the requirement for submission of noncompliance test data in paragraph (c)(7) would require them to conduct tests and submit details of test procedures to the agency. This paragraph requires only that manufacturers supply the results and data of tests, if any are conducted, upon which a noncompliance determination was based. Test procedures need not be submitted. If a noncompliance determination is made on information other than tests, then that information would be submitted.

Manufacturers claimed that they would be unable to submit a plan for remedy as required by paragraph (c)(8) in the required 5 working days. The NHTSA needs to have an indication of a manufacturer's plan for remedy as soon as possible. Like all of the information required by this section, the plan need not be extensively detailed in the initial 5-working day period and is subject to modification if subsequent circumstances warrant a change. In other words, a manufacturer is not binding itself to only those items established in the plan submitted during the first 5 days after a defect or noncompliance has been determined to exist. The NHTSA has amended the wording of this paragraph somewhat to indicate that a copy of a manufacturer's plan for remedying a defect or noncompliance will be made public in the NHTSA docket.

The Center for Auto Safety argued that paragraph (c)(9) should require actual copies of the defect or noncompliance notice bulletins or communications, not representative copies. The reason the NHTSA used the terminology con-

tained in the notice is that in some instances a manufacturer has a multiple mailing of one communication. To require actual copies of multiple mailings would require copies of each of these identical communications. Therefore, the agency allows a representative copy (e.g., one actual copy) of such information. The NHTSA concludes that this requirement fulfills the agency's need for accurate copies.

V. Quarterly defect reports.

Many manufacturers disagreed with the agency's scheme for quarterly defect reports outlined in Section 576.6. Equipment manufacturers suggested that vehicle manufacturers should be responsible for these reports, while vehicle manufacturers asserted that the equipment manufacturers are better able to accomplish the reporting requirements. The NHTSA requires any manufacturer, either vehicle or equipment, undertaking a recall to comply with the quarterly reporting requirement. This report tells the agency the status of recalls, and therefore, is best accomplished by the party conducting the recall. The NHTSA declines to adopt suggestions that would change this scheme.

Subparagraph (b)(6) requires the submission of information on the number of vehicles or equipment that is determined to be unreachable. Several manufacturers argued for deletion of this information suggesting that it was impossible to ascertain why certain vehicles or equipment are unreachable. The manufacturer need only give the reasons why vehicles are unreachable when such information is available to him. This information aids the agency in understanding the effectiveness of a recall. The agency can determine from this data the number of vehicles still in use that were not corrected by a manufacturer and why.

VI. Purchaser and owner lists.

The intent of this section was misunderstood by a number of commenters. Many manufacturers, both equipment and vehicle, indicated that this requirement burdened them with new record-keeping requirements far beyond those currently in existence. This is not the case. For example, Part 573.7(a) requires vehicle manufacturers to maintain lists of owners of vehicles involved in a

notification campaign, not all vehicles produced. General recordkeeping requirements for vehicle and equipment manufacturers are found in the Act and in the agency's regulations in Part 576. These general recordkeeping requirements are not affected by this regulation.

Equipment manufacturers strenuously objected to paragraph (c) as placing huge recordkeeping burdens upon them while achieving little in the way of benefits. The agency does not find these arguments persuasive. The recordkeeping requirement in this paragraph is limited. The agency has reworded this section to clarify an equipment manufacturer's recordkeeping requirements. This requirement does not mandate an equipment manufacturer to make and retain a list of all purchasers of its equipment as the equipment is sold. Equipment manufacturers will be required to retain a list of individuals, dealers, distributors and manufacturers determined by the manufacturer or the agency to be in possession of potentially defective or noncomplying equipment. This limited requirement is within the authority granted by Section 112(b) of the Act. The list would be compiled during the course of a defect or noncompliance campaign. If an equipment manufacturer is unable to find those in possession of its equipment, no list is required to be retained. The burden imposed by this requirement is minimal since it merely requires that manufacturers retain some information that will, by necessity, be generated should they be required to conduct either a defect or noncompliance campaign.

With respect to paragraph (b), tire manufacturers indicated that each tire does not have a different identification number and therefore the paragraph should be amended somewhat to reflect this. The agency agrees and has modified the language accordingly.

VII. Notices, bulletins, and other communications.

Many manufacturers objected to the requirements in Section 573.8 as being too broad and beyond the scope of the NHTSA's authority. This section requires the submission of information concerning defects in equipment and vehicles. Further, the manufacturers recommended that the parentheticals be deleted from the section and

that the term "defect" be changed to "safety-related defect." The agency does not agree with these comments.

First, the agency needs information concerning any defect in a manufacturer's product, not just those defects that a manufacturer deems to be safety-related. The Act contemplates a two-pronged approach to defects determinations. Either a manufacturer or the agency can make such a determination. For the agency to carry out its half of that responsibility, it needs information pertaining to all defects so that it can then judge for itself whether a defect is in fact safety related. To require only information pertaining to manufacturer-determined safety-related defects, would in effect mean that manufacturers would not be required to submit defect information to the agency until such time as that manufacturer had made a safety-related defect determination. This would stymie the agency's ability to make independent judgments concerning defects that is necessary for proper enforcement of the Act. In the past year, the NHTSA has made several safety-related defect determinations on the basis of information routinely submitted by manufacturers concerning defects that they had not considered safety-related. For example, some Airstream Trailers and White Trucks were recalled when the agency discovered safety-related problems that were mentioned in those companies' technical bulletins. Therefore, the agency needs all types of defect information, not just information that manufacturers determine to be safety-related.

Second, the parentheticals were added to this section to help clarify the type of information intended to be covered by its requirements. These lists are not all-inclusive. The NHTSA concludes, however, that they do clarify the type of information the agency seeks to obtain from a manufacturer, and therefore, they will be retained in the regulation.

The agency has deleted from Section 573.8 all references to noncompliances. All noncompliances must be reported to the agency under Part 573.5 (c) (9). Therefore, it is unnecessary to include references to noncompliances in this paragraph.

In response to the allegations that the agency has no authority to require submittal of defect

information, whether or not safety related, Section 158 of the Act specifically grants the agency that authority.

VIII. Address for submitting required reports and other information.

The address listed in Part 573.9 has been altered to reflect the new agency organization and authority for enforcement actions.

In accordance with agency policy, the NHTSA has considered the costs and benefits of this requirement. The agency concludes that the regulation will help enforcement of defect and noncompliance cases by ensuring that adequate information is submitted to the NHTSA. The costs to both industry and government of the regulation will be less than \$5 million annually.

The principal authors of this notice are James Murray of the Office of Defects Investigation and Roger Tilton of the Office of Chief Counsel.

In consideration of the foregoing, Part 573, *Defect and Noncompliance Reports*, of Volume 49 of the Code of Federal Regulations is amended. . . .

(Secs. 108, 112, 119, Pub. L. 89-563, 80 Stat. 718; Secs. 102, 103, 104, Pub. L. 93-492; 88 Stat. 1470; 15 U.S.C. 1397, 1401, 1408, 1411-1420; delegation of authority at 49 CFR 1.50.)

Issued on December 18, 1978.

Joan Claybrook
Administrator

**43 F.R. 60165-60169
December 26, 1978**

PREAMBLE TO AN AMENDMENT TO PART 573

Defect and Noncompliance Reports

(Docket No. 74-7; Notice 7)

ACTION: Final Rule.

SUMMARY: The purpose of this final rule is to amend 49 CFR Part 573—*Defect and Noncompliance Reports*, to delete certain reporting requirements for motor vehicle or motor vehicle equipment manufacturers conducting a defect or noncompliance notification campaign. Under this rule, motor vehicle manufacturers no longer have to submit, in the third quarterly report to the agency, the vehicle identification number (VIN) for each vehicle for which corrective measures have not been completed. Other quarterly report information requirements are also deleted or clarified, based on the agency's experience since 1974 with this portion of the defect and noncompliance reports.

EFFECTIVE DATE: January 6, 1986

SUPPLEMENTARY INFORMATION: Part 573—*Defect and Noncompliance Reports*, includes requirements for manufacturers to report to NHTSA safety-related defects and nonconformities with Federal motor vehicle safety standards, to maintain lists of purchasers and owners notified of defective and noncomplying motor vehicles and items of equipment, and to provide the agency with quarterly reports on the progress of defect and noncompliance notification campaigns. The quarterly reports must contain specified information and be submitted for six consecutive quarters after initiation of a campaign, unless corrective action is completed earlier.

This rule amends only section 573.6 of Part 573 which sets forth the information required to be submitted to the agency in these quarterly reports. The notice of proposed rulemaking, which was issued on March 27, 1985 (50 FR 12056), proposed to delete or clarify certain information requirements in the third quarterly report. This amendment was proposed in response to a petition by the Motor Vehicle Manufacturers Association (MVMA). The agency received comments on the proposal from nine motor vehicle manufacturers and the MVMA. All comments supported the proposal as lessening an administrative and cost burden. The agency is adopting the changes as proposed.

First, the rule deletes the requirement in section 573.6(b)(7) that manufacturers submit, in the third quarterly report to the agency, the VIN for each vehicle for which corrective measures have not been completed. All commenters supported this change, stating that the deletion of these VIN's from the third quarterly report would lessen the administrative and cost burdens of producing the information and would not adversely affect the progress of safety campaigns. In addition, all commenters agreed that these VIN's would be supplied to the agency, if requested, within a reasonable time.

As stated in the proposal, this rule will not change the agency's practice of assisting any individual vehicle owner who requests recall information about a particular vehicle or item of equipment. The agency will continue to provide information to enable the owner to contact the appropriate office of the manufacturer.

Second, this rule also deletes the requirement in section 573.6(b)(4) that each quarterly report include the number of vehicles or items of equipment estimated to contain the defect. This total number is initially supplied to NHTSA under the requirements of section 573.5 which states that the manufacturer's first report must include information specifically identifying the vehicles or items of equipment potentially containing the defect or noncompliance, and the percentage of those vehicles or equipment items estimated to actually contain the defect or noncompliance.

The agency's purpose in having this number updated in the quarterly reports has been to determine the potential size of notification campaigns. Ford Motor Company stated that updated information could be sent, if needed, within 10 working days. Ford added that information requiring supplier analysis on returned components would take longer. The agency concludes that updated estimates in the quarterly reports are no longer necessary. NHTSA will continue to receive quarterly report information on the number of vehicles or items of equipment involved in the notification campaign under section 573.6(b)(3). The requirement in section 573.6(b)(4) is therefore deleted in the rule.

Third, commenters also agreed with the proposed amendment to the language in section 573.6(b)(5) which clarifies the agency's intent that the number of vehicles and equipment items inspected and repaired and the number inspected and determined not to need repair should be separately reported. The rule adopts this clarification.

Fourth, the rule deletes the requirement in section 573.6(c) concerning the correction of errors in quarterly reports. Under this section, manufacturers must submit revised information in quarterly reports when they determine that an original report contained incorrect data concerning the number of vehicles or items of equipment (1) involved in a notification campaign, (2) estimated to contain the defect, or (3) determined to be unreachable for inspection for any reason. The agency does not believe submittal of this information on a regular basis is necessary and commenters agreed, adding the data could be supplied if necessary, upon request from NHTSA.

In their comments, Ford requested that the final sentence of section 573.6(b)(6) be deleted. This section requires that the number of vehicles or items of equipment, which are determined to be unreachable for inspection due to export, theft, scrapping, failure to receive notification, or other reasons, be reported to NHTSA. The last sentence of the section requires that the number of vehicles or items of equipment in each of these categories be specified. The agency did not propose in the March notice that this sentence be deleted, because this information is utilized by the agency. For example, NHTSA keeps track of the number of owners who were unreachable to assist the agency in determining whether renotification to new owners is necessary or whether additional types of notification should be adopted. Moreover, the manufacturers currently receive notice of whether a vehicle or equipment item has been exported, stolen, or scrapped by return postcard, from the person notified of the campaign. Therefore, this requirement is not changed.

In consideration of the foregoing, 49 CFR Part 573 is amended as follows:

1. The authority citation for Part 573 is revised to read as follows:

AUTHORITY: 15 U.S.C. 1397, 1401, 1408, 1411-20; delegation of authority at 49 CFR 1.50.

2. Section 573.6 is revised to read as follows:

Section 573.6 Quarterly Reports

(a) Each manufacturer who is conducting a defect or noncompliance notification campaign to manufacturers, distributors, dealers, or purchasers, shall submit to NHTSA a report in accordance with paragraphs (b) and (c) of this section, not more than 25 working days after the close of each calendar quarter. Unless otherwise directed by the NHTSA, the information specified in paragraphs (b)(1) through (5) of this section shall be included in the quarterly report, with respect to each notification campaign, for each of six consecutive quarters beginning with the quarter in which the campaign was initiated (i.e., the date of initial mailing of the defect or noncompliance notification to owners) or corrective action has been completed on all defective or noncomplying vehicles or items of replacement equipment involved in the campaign, whichever occurs first.

(b) Each report shall include the following information identified by and in the order of the subparagraph headings of this paragraph.

(1) The notification campaign number assigned by NHTSA.

(2) The date notification began and the date completed.

(3) The number of vehicles or items of equipment involved in the notification campaign.

(4) The number of vehicles and equipment items which have been inspected and repaired and the number of vehicles and equipment items inspected and determined not to need repair.

(5) The number of vehicles or items of equipment determined to be unreachable for inspection due to export, theft, scrapping, failure to receive notification, or other reasons (specify). The number of vehicles or items of equipment in each category shall be specified.

(c) Information supplied in response to the paragraphs (b)(4) and (5) of this section shall be cumulative totals.

Issued on: December 31, 1985.

Diane K. Steed
Administrator

51 F.R. 397
January 6, 1986

PART 573—DEFECT AND NONCOMPLIANCE REPORTS

(Docket No. 74-7; Notice 4)

Sec.

573.1 Scope.

573.2 Purpose.

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573.6 Quarterly report.

573.7 Owner lists.

573.8 Notices, bulletins, and other communications.

573.9 Address for submitting required reports and other information.

【AUTHORITY: 15 U.S.C. 1397, 1401, 1408, 1411-20; delegation of authority at 49 CFR 1.50. (51 F.R. 397—January 6, 1986. Effective: January 6, 1986)】

§ 573.1 Scope.

This part specifies requirements for manufacturers to maintain lists of purchasers and owners of defective and noncomplying motor vehicles and motor vehicle original and replacement equipment, and for reporting to the National Highway Traffic Safety Administration defects in motor vehicles and motor vehicle equipment, for reporting nonconformities to motor vehicle safety standards, for providing quarterly reports on defect and noncompliance notification campaigns, and for providing copies to NHTSA of communications with distributors, dealers, and purchasers regarding defects and noncompliances.

§ 573.2 Purpose.

The purpose of this part is to inform NHTSA of defective and noncomplying motor vehicles and items of motor vehicle equipment, and to obtain in-

formation for NHTSA on the adequacy of manufacturers' defect and noncompliance notification campaigns, on corrective action, on owner response, and to compare the defect incidence rate among different groups of vehicles.

§ 573.3 Application.

(a) This part applies to manufacturers of complete motor vehicles, incomplete motor vehicles, and motor vehicle original and replacement equipment, with respect to all vehicles and equipment that have been transported beyond the direct control of the manufacturer.

(b) In the case of a defect or noncompliance determined to exist in a motor vehicle or equipment item imported into the United States, compliance with §§ 573.5 and 573.6 by either the fabricating manufacturer or the importer of the vehicle or equipment item shall be considered compliance by both.

(c) In the case of a defect or noncompliance determined to exist in a vehicle manufactured in two or more stages, compliance with §§ 573.5 and 573.6 by either the manufacturer of the incomplete vehicle or any subsequent manufacturer of the vehicle shall be considered compliance by all manufacturers.

(d) In the case of a defect or noncompliance determined to exist in an item of replacement equipment (except tires) compliance with §§ 573.5 and 573.6 by the brand name or trademark owner shall be considered compliance by the manufacturer. Tire brand name owners are considered manufacturers (15 U.S.C. 1419(1)) and have the same reporting requirements as manufacturers.

(e) In the case of a defect or noncompliance determined to exist in an item of original equipment used in the vehicles of only one vehicle

manufacturer, compliance with §§ 573.5 and 573.6 by either the vehicle or equipment manufacturer shall be considered compliance by both.

(f) In the case of a defect or noncompliance determined to exist in original equipment installed in the vehicles of more than one vehicle manufacturer, compliance with § 573.5 is required of the equipment manufacturer as to the equipment item, and of each vehicle manufacturer as to the vehicles in which the equipment has been installed. Compliance with § 573.6 is required of the manufacturer who is conducting a recall campaign.

§ 573.4 Definitions.

For purposes of this part:

“Act” means the National Traffic and Motor Vehicle Safety Act of 1966, as amended (15 U.S.C. 1391 *et seq.*).

“Administrator” means the Administrator of the National Highway Traffic Safety Administration or his delegate.

“First purchaser” means first purchaser for purposes other than resale.

§ 573.5 Defect and noncompliance information report.

(a) Each manufacturer shall furnish a report to the NHTSA for each defect in his vehicles or in his items of original or replacement equipment that he or the Administrator determines to be related to motor vehicle safety, and for each noncompliance with a motor vehicle safety standard in such vehicles or items of equipment which either he or the Administrator determines to exist.

(b) Each report shall be submitted not more than 5 working days after a defect in a vehicle or item of equipment has been determined to be safety-related, or a noncompliance with a motor vehicle safety standard has been determined to exist. Information required by paragraph (c) of this section that is not available within that period shall be submitted as it becomes available. Each manufacturer submitting new information relative to a previously submitted report shall refer to the notification campaign number when a number has been assigned by the NHTSA.

(c) Each manufacturer shall include in each report the information specified below.

(1) The manufacturer's name: The full corporate or individual name of the fabricating manufacturer and any brand name or trademark owner of the vehicle or item of equipment shall be spelled out, except that such abbreviations as “Co.” or “Inc.,” and their foreign equivalents, and the first and middle initials of individuals may be used. In the case of a defect or noncompliance determined to exist in an imported vehicle or item of equipment, the agent designated by the fabricating manufacturer pursuant to section 110(e) of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1399(e)) shall be also stated. If the fabricating manufacturer is a corporation that is controlled by another corporation that assumes responsibility for compliance with all requirements of this part the name of the controlling corporation may be used.

(2) Identification of the vehicles or items of motor vehicle equipment potentially containing the defect or noncompliance.

(i) In the case of passenger cars, the identification shall be by the make, line, model year, the inclusive dates (month and year) of manufacture, and any other information necessary to describe the vehicles.

(ii) In the case of vehicles other than passenger cars, the identification shall be by body style or type, inclusive dates (month and year) of manufacture, and any other information necessary to describe the vehicles, such as GVWR or class for trucks displacement (cc) for motorcycles, and number of passengers for buses.

(iii) In the case of items of motor vehicle equipment, the identification shall be by generic name of the component (tires, child seating systems, axles, etc.), part number, size and function if applicable, the inclusive dates (month and year) of manufacture, and any other information necessary to describe the items.

(3) The total number of vehicles or items of equipment potentially containing the defect or noncompliance, and where available the number of vehicles or items of equipment in each group identified pursuant to paragraph (c)(2) of this section.

(4) The percentage of vehicles or items of equipment specified pursuant to paragraph (c) (2) of this section estimated to actually contain the defect or noncompliance.

(5) A description of the defect or noncompliance, including both a brief summary and a detailed description with graphic aids as necessary, of the nature and physical location (if applicable) of the defect or noncompliance.

(6) In the case of a defect, a chronology of all principal events that were the basis for the determination that the defect related to motor vehicle safety, including a summary of all warranty claims, field or service reports, and other information, with their dates of receipt.

(7) In the case of a noncompliance, the test results or other data on the basis of which the manufacturer determined the existence of the noncompliance.

(8) A description of the manufacturer's program for remedying the defect or noncompliance. The manufacturer's program will be available for inspection in the public docket, Room 5109, Nassif Building, 400 Seventh St., SW., Washington, D.C. 20950.

(9) A representative copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and are sent to more than one manufacturer, distributor, dealer, or purchaser. These copies shall be submitted to the NHTSA not later than 5 days after they are initially sent to manufacturers, distributors, dealers, or purchasers. In the case of any notification sent by the manufacturer pursuant to Part 577 of this chapter, the copy of the notification shall be submitted by certified mail.

§ 573.6 Quarterly reports.

[(a) Each manufacturer who is conducting a defect or noncompliance notification campaign to manufacturers, distributors, dealers, or purchasers, shall submit to NHTSA a report in accordance with paragraphs (b) and (c) of this section, not more than 25 working days after the close of each calendar quarter. Unless otherwise directed by the NHTSA, the information specified in paragraphs (b)(1) through (b)(5) of this section shall be included in the quarterly report, with respect to each notification campaign, for

each of six consecutive quarters beginning with the quarter in which the campaign was initiated (i.e., the date of initial mailing of the defect or noncompliance notification to owners) or corrective action has been completed on all defective or noncomplying vehicles or items of replacement equipment involved in the campaign, whichever occurs first.

(b) Each report shall include the following information identified by and in the order of the subparagraph headings of this paragraph.

(1) The notification campaign number assigned by NHTSA.

(2) The date notification began and the date completed.

(3) The number of vehicles or items of equipment involved in the notification campaign.

(4) The number of vehicles and equipment items which have been inspected and repaired and the number of vehicles and equipment items inspected and determined not to need repair.

(5) The number of vehicles or items of equipment determined to be unreachable for inspection due to export, theft, scrapping, failure to receive notification, or other reasons (specify). The number of vehicles or items of equipment in each category shall be specified.

(c) Information supplied in response to the paragraphs (b) (4) and (b) (5) of this section shall be cumulative totals. (51 F.R. 397—January 6, 1986. Effective: January 6, 1986)]

§ 573.7 Purchaser and owner lists.

(a) Each manufacturer of motor vehicles shall maintain, in a form suitable for inspection such as computer information storage devices or card files, a list of the names and addresses of the registered owners, as determined through State motor vehicle registration records or other sources, or the most recent purchasers where the registered owners are unknown, for all vehicles involved in a defect or noncompliance notification campaign initiated after the effective date of this part. The list shall include the vehicle identification number for each vehicle and the status of remedy with respect to each vehicle, updated as of the end of each quarterly reporting period specified in § 573.6. Each list shall be retained, beginning with the date on which the defect or noncompliance information report required by § 573.5 is initially submitted to the NHTSA, for 5 years.

(b) Each manufacturer (including brand name owners) of tires shall maintain, in a form suitable for inspection such as computer information storage devices or card files, a list of the names and addresses of the first purchasers of his tires for all tires involved in a defect or noncompliance notification campaign initiated after the effective date of this part. The list shall include the tire identification number of all tires and shall show the status of remedy with respect to each owner involved in each notification campaign, updated as of the end of each quarterly reporting period specified in § 573.6. Each list shall be retained, beginning with the date on which the defect information report is initially submitted to the NHTSA, for 3 years.

(c) For each item of equipment involved in a defect or noncompliance notification campaign initiated after the effective date of this part, each manufacturer of motor vehicle equipment other than tires shall maintain, in a form suitable for inspection, such as computer information storage devices or card files, a list of the names and addresses of each distributor and dealer of such manufacturer, each motor vehicle or motor vehicle equipment manufacturer and most recent purchaser known to the manufacturer to whom a potentially defective or noncomplying item of equipment has been sold, the number of such items sold to each, and the date of shipment. The list shall show as far as is practicable the number of items remedied or returned to the manufacturer and the dates of such remedy or return. Each list

shall be retained, beginning with the date on which the defect report required by § 573.5 is initially submitted to the NHTSA for 5 years.

§ 573.8 Notices, bulletins, and other communications.

Each manufacturer shall furnish to the NHTSA a copy of all notices, bulletins, and other communications (including warranty and policy extension communiques and product improvement bulletins), other than those required to be submitted pursuant to § 573.5(c) (9), sent to more than one manufacturer, distributor, dealer, or purchaser, regarding any defect in his vehicles or items of equipment (including any failure or malfunction beyond normal deterioration in use, or any failure of performance, or any flaw or unintended deviation from design specifications), whether or not such defect is safety-related. Copies shall be submitted monthly, not more than 5 working days after the end of each month.

§ 573.9 Address for submitting required reports and other information.

All required reports and other information, except as otherwise required by this part, shall be submitted to the Associate Administrator for Enforcement, National Highway Traffic Safety Administration, Washington, D.C. 20590.

**43 F.R. 60169
December 26, 1978**

PREAMBLE TO PART 574—TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice No. 5)

On November 10, 1970, the National Highway Safety Bureau (now the National Highway Traffic Safety Administration, or NHTSA) published the Tire Identification and Recordkeeping Regulations (35 F.R. 18116). Thereafter, pursuant to § 553.35 of the rulemaking procedures (49 CFR Part 553, 35 F.R. 5119), petitions for reconsideration or petitions for rulemaking were filed by the American Retreaders' Association, Inc., the Armstrong Rubber Co., Bandag Inc., the National Tire Dealers & Retreaders Association, Inc., the Goodyear Tire & Rubber Co., the Lee Tire and Rubber Co., Chrysler Corp., the Rubber Manufacturers Association, Ford Motor Co., the Kelly-Springfield Tire Co., Pirelli Tire Corp., the B. F. Goodrich Co., Uniroyal Tire Co., Cooper Tire & Rubber Co., Michelin Tire Corp., the Firestone Tire & Rubber Co., White Motor Corp., Bert Schwarz-S&H Inc., and the Truck Trailer Manufacturers Association. Several petitioners requested the opportunity to demonstrate difficulties they were having meeting the regulation as issued, and as a result a public meeting was held December 21, 1970. Notice of the meeting was published in the *Federal Register* (35 F.R. 19036) and the transcript of the meeting is in the public docket. The substance of the petitions and comments made at the meeting have been considered. Certain parts of the Tire Identification and Recordkeeping Regulation are hereby amended.

The definition of "Tire brand name owner" in § 574.3(c) is changed to make it clear that a person manufacturing a brand name tire that he markets himself is not a brand name owner for the purposes of this regulation.

The regulation is amended to except from its requirements tires manufactured for pre-1948 vehicles. This exception is consistent with the

Federal Motor Vehicle Safety Standard for passenger car tires (Standard No. 109).

After consideration of the comments in the petitions concerning the tire identification number requirements, several changes have been made.

1. Section 574.5 is amended to specify the numbers and letters to be used in the identification number.

2. Figures 1 and 2 are modified to allow three-quarters of an inch, instead of one-half inch, between the DOT symbol and the identification number and between the second and third grouping. Tires with cross section width of 6 inches or less may use $\frac{5}{32}$ -inch letters. The DOT symbol may be located to the right of the identification number as well as above, below, or to the left of the identification number. Retreaders, as well as new tire manufacturers, may locate the DOT symbol above, below, to the left, or to the right of the identification number. The minimum depth of the identification number has been changed from 0.025 inch to 0.020 inch, measured from the surface immediately surrounding the characters.

3. The second grouping, identifying the tire size, has been changed with respect to retreaded tires to provide that if a matrix is used for processing the retreaded tire the code must identify the matrix used. The change requiring retreaded tire identification numbers to contain a matrix code rather than a size code was made because, in the event of a defect notification, the matrix would be a more meaningful method of identifying the suspect tires and it was considered impracticable to require retreaders to include the tire size in the tire-identification number.

4. The third grouping, for identifying the significant characteristics of the tire, has been changed to provide that if a tire is manufactured

for a brand name owner the code shall include symbols identifying the brand name owner, which shall be assigned by the manufacturer rather than by the NHTSA. Manufacturers are required to provide the NHTSA with the symbols assigned to brand name owners upon the NHTSA's request. This change should result in a shorter identification number and allow manufacturers greater flexibility in the use of the third grouping.

Standard No. 109 presently requires that passenger car tires contain a DOT symbol, or a statement that the tire complies with the standard, on both sidewalls of the tire between the section width and the bead. The requirement in Standard No. 109 is being changed by notice published in this issue (36 F.R. 1195 to provide that the DOT symbol may be on either sidewall, in the location specified by this regulation. The requested change that the DOT symbol be allowed on tires for which there is no applicable standard in effect is denied, since such use would tend to give consumers the impression those tires were covered by a Federal standard.

Several petitioners requested that other DOT symbols (located as required by the present Standard No. 109) be permitted to remain on the tire along with the three-digit manufacturer's code number assigned pursuant to that standard. The Tire Identification and Record-keeping regulation does not prohibit the continued use of the symbol and code number provided the numbers are not close enough to the identification number to be confused with it. In no event should the three-digit number, formerly required by Standard No. 109, immediately follow the tire identification number.

As a result of petitions by vehicle manufacturers the requirement in § 574.10 that vehicle manufacturers maintain the record of tires on each vehicle shipped has been changed to eliminate the requirement that this information be maintained by identification number. It would evidently be extremely difficult and expensive for the vehicle manufacturer to record each tire identification number. Vehicle manufacturers have stated that their present system provides records that enable them to notify the purchaser of a vehicle that may contain suspect tires.

Several petitioners requested that the effective date of the regulation be extended beyond May 1, 1971. The 1970 amendment to the National Traffic and Motor Vehicle Safety Act requires that the provisions relating to maintaining records of tire purchasers shall be effective not later than 1 year after the date of enactment of these amendments (May 22, 1971). It has been determined that in view of the complexities involved in establishing the recordkeeping system required and the effect of the same on existing processes, good cause exists for making the regulations effective on the latest date manufacturers are required by statute to maintain records. It is further determined that a May 22, 1971, effective date is in the public interest.

Effective date: May 22, 1971.

Issued on January 19, 1971.

Douglas W. Toms,
Acting Administrator, National
Highway Traffic Safety Ad-
ministration.

36 F.R. 1196
January 26, 1971

PREAMBLE TO AMENDMENT TO PART 574—TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice No. 9)

Amendment to Figure 2 Concerning the Location of the Tire Identification Number for Retreaded Tires

The purpose of this amendment is to provide retreaders with an alternative location for the placement of the tire identification number.

On January 26, 1971, the National Highway Traffic Safety Administration published Docket No. 70-12, Notice No. 5, a revised version of the Tire Identification and Record Keeping Regulation, 49 CFR Part 574 (36 F.R. 1196). Section 574.5 requires retreaders to permanently mold or brand into or onto one sidewall a tire identification number in the manner specified in Figure 2 of the regulation. Figure 2 requires that the tire identification number be located in the area of the shoulder between the tread edge and the maximum section width of the tire. The regulation specified this location because, generally, it is the area upon which retreaders apply new retread material.

Bandag, Inc., has petitioned for rulemaking to allow the tire identification to be below the section width of the tire. The petition requests this relief because the Bandag process only affects the tread surface, a comparatively smooth surface is needed for application of the identification number, and many casings have no smooth area

between the tread edge and the maximum section width.

Therefore, in view of the above, Figure 2 of Part 574 (36 F.R. 1200) is hereby amended as set forth below to require that the tire identification number be on one sidewall of the tire, either on the upper segment between the maximum section width and the tread edge, or on the lower segment between the maximum section width and bead in a location such that the number will not be covered by the rim flange when the tire is inflated. In no event should the number be on the surface of the scuff rib or ribs.

Effective date: May 22, 1971.

Because this amendment relieves a restriction and does not impose any additional burden on any person it is found that notice and public procedure thereon are unnecessary and impracticable, and that, for good cause shown, an effective date less than 30 days after the date of issuance is in the public interest.

Issued on May 21, 1971.

Douglas W. Toms
Acting Administrator

PREAMBLE TO AMENDMENT TO PART 574—TIRE IDENTIFICATION AND RECORD KEEPING

(Docket No. 70-14; Notice 15)

The purpose of this amendment to Part 574 of Title 49, Code of Federal Regulations, is to provide that the second group of symbols within the tire identification number shall, in the case of new tires, be assigned at the option of the manufacturer rather than conforming to the tire size code presently found in Table I of the regulation.

Under the present system, even if the presently unassigned symbols "O" and "R" are used, a maximum of 900 tire size codes can be assigned. Due to the many new tire sizes being introduced, it is necessary to change the system to allow more flexibility. Therefore, Table I is herewith deleted, new tire manufacturers are allowed to assign their own two-digit code for the tire size, and retreaders are allowed to use either a self-assigned matrix code or a self-assigned tire size code. Each new tire manufacturer will still be required to use a two-symbol size code and to maintain a record of the coding system used, which shall be provided to the National Highway Traffic Safety Administration upon written request. It is recommended but not required that manufacturers use the code sizes previously assigned by this agency for active sizes, and reuse the codes for obsolete sizes when additional size codes are needed.

A notice of proposed rulemaking on this subject was published on June 16, 1972 (37 F.R. 11979). The comments received in response to the notice have been considered in the issuance of this final rule. The rule is issued as it appeared in the proposal including the letter "T" inadvertently omitted from the proposal.

Three of the tire manufacturers who commented favored the proposed change, and the National Tire Dealers and Retreaders Association, the Japan Automobile Manufacturers Association and The European Tyre and Rim

Technical Organisation commented without objection to the proposed change.

Bandag, Inc., a retreader of tires, objected to the proposed change on the grounds that allowing tire manufacturers to assign their own tire size code would remove one of the methods a retreader has to determine the tire size of a casing to be retreaded.

Mercedes-Benz of North America and Volkswagen of America did not favor the change because of the possibility of confusion for the vehicle manufacturer that equips its vehicle with several manufacturers' tires.

The principal objection raised by Bandag should be considerably alleviated by an amendment to Standard No. 109 (36 F.R. 24824) under consideration, which would require tire manufacturers to place the actual tire size, as well as other pertinent information, between the section width and the bead of the tire so that the information will be less susceptible to obliteration during use or removal during the retreading process.

With respect to the comment by Mercedes-Benz of North America and Volkswagen of America, it was concluded that because the existing system does not provide enough symbols to meet the anticipated introduction of new tire sizes, the proposed change is necessary. Mercedes' recommendation that "G", "Q", "S", and "Z" be added or that a three-digit size code be used was rejected, because the additional symbols suggested are difficult to apply to the tire, and the addition of a third symbol would, according to the tire manufacturers, be impractical and inefficient.

A list of the tire size codes assigned up to this time is published in the general notice section of this issue of the *Federal Register* (37 F.R. 23742). The NHTSA urges tire manufacturers to use

these existing codes for tire sizes presently being produced and to work within their tire and rim associations to make code assignments for new tire sizes on an industry-wide basis and reuse obsolete size codes wherever possible. In this way the usefulness of the tire size code to the vehicle manufacturer will be maintained.

In consideration of the foregoing, in Part 574 of Title 49, Code of Federal Regulations, Table I is deleted and § 574.5 is amended

Effective date: November 8, 1972.

Because this amendment relieves a restriction, and because of the immediate need for the introduction of new tire size codes, it is found for

good cause shown that an effective date less than 30 days from the date of issuance is in the public interest.

Issued under the authority of sections 103, 112, 113, 119 and 201 of the National Traffic and Motor Vehicle Safety Act, 15 U.S.C. 1392, 1401, 1402, 1407 and 1421, and the delegation of authority at 49 CFR 1.51.

Issued on October 31, 1972.

Charles H. Hartman
Acting Administrator

37 F.R. 23727
November 8, 1972

PREAMBLE TO AMENDMENT TO PART 574—TIRE IDENTIFICATION AND RECORD KEEPING

(Docket No. 71-18; Notice 7)

This notice amends Standard No. 119, *New pneumatic tires for vehicles other than passenger cars*, 49 CFR 571.119, to specify lettering sizes and modified treadwear indicator requirements for tires. In addition, it amends Part 574, *Tire Identification*, 49 CFR 574, to permit the labeling of certain tires with the symbol DOT prior to the effective date of the standard. This notice also responds to petitions for reconsideration of Standard 119's effective date by maintaining the present date of March 1, 1975.

To avoid a costly production shutdown on the effective date to engrave tire molds with the DOT compliance symbol required by the standard, the National Highway Traffic Safety Administration (NHTSA) proposed a modification of the Part 574 prohibition on the symbol's use prior to the effective date (39 F.R. 3967, January 31, 1974). The Rubber Manufacturers Association and five tire manufacturers agreed that the DOT should be engraved on tire molds prior to the effective date, but objected to the expense of covering the DOT with a label stating that "no Federal motor vehicle safety standard applies to this tire," when the DOT appears on tires which (presumably) satisfy Standard 119 requirements. Firestone pointed out that the large label size could obscure other label information. Goodrich noted that, as proposed, the DOT could be molded on tires which met no standard and could mislead a user if the label fell off.

The NHTSA will not permit the appearance of the DOT compliance symbol on any item of motor vehicle equipment to which no standard is applicable. The terms "applicability" and "applies" have only one meaning for Federal motor vehicle safety standards: that the vehicle or equipment concerned is subject to a safety standard. To permit use of the DOT symbol on

vehicles or items of motor vehicle equipment to which no standard applies would confuse the meaning of the symbol and the concept of compliance.

In response to Firestone and Goodrich, the NHTSA has modified the lettering size on the label and limited use of the DOT symbol to tires for which a standard has been issued. With the small lettering size, the rubber labels used on retread tires can be applied over the DOT symbol in fulfillment of the requirement. Another method which manufacturers did not mention but which would be permissible is the removal of the DOT at the same time imperfections are buffed off the tire.

All comments on the proposal objected to the specific location requirements for treadwear indicators based on the concept of even tread wear across the tread width. Goodyear demonstrated in a meeting with the NHTSA Tire Division on February 13, 1974, and detailed in its submission to the Docket, the difficulty in equating ideal tire wear with actual road experience. They recommended the simpler concept that a tire has worn out when any major tread groove has only $\frac{2}{32}$ in tread remaining. The NHTSA has concluded that treadwear indicators must be placed at the discretion of the manufacturer to give a person inspecting the tire visual indication of whether the tire has worn to a certain tread depth. Accordingly, the lateral location requirements for treadwear indicators have been deleted from the standard.

There was no discussion of the lettering size and depth proposal, and these proposals are adopted as proposed.

The comments requested reconsideration of the standard's March 1, 1975, effective date (published February 1, 1974, 39 F.R. 4087), asserting the need for 18 months of lead time following

publication of this notice to engrave tire molds as required by the standard. The NHTSA has found that 11 months is sufficient leadtime to accomplish these changes, and accordingly these petitions are denied.

To correct an inadvertent omission in the amendment of Standard No. 119 in response to petitions for reconsideration (39 F.R. 5190, February 11, 1974), superscripts are added to Table III entries for "All other, A, B, C, D range tires".

In consideration of the foregoing, Parts 571 and 574 of Title 49, Code of Federal Regulations, are amended. . . .

Effective date: Standard No. 119 amendments: March 1, 1975. Part 574 amendment: April 3,

1974. Because the Part 574 amendment creates no additional burden, and because modification of tire molds must begin immediately, it is found for good cause shown that an effective date less than 180 days after issuance is in the public interest.

(Secs. 103, 112, 119, 201, Pub. L. 89-563, 80 Stat. 718; 15 U.S.C. 1392, 1401, 1407, 1421; delegation of authority at 49 CFR 1.51.)

Issued on March 28, 1974.

James B. Gregory
Administrator

39 F.R. 12104
April 3, 1974

PREAMBLE TO AMENDMENT TO PART 574— TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice 19)

This notice amends the Tire Identification and Recordkeeping regulation, 49 CFR Part 574, to establish an optional universal registration format for tire registration forms. It also requires manufacturers of new tires to redirect registration forms of other manufacturers of new tires which have been forwarded to them in error.

On March 9, 1973, the NHTSA issued a notice of proposed rulemaking (38 F.R. 6398) proposing a universal registration form for tire identification and record keeping. The notice was issued in response to requests from multi-brand tire dealers who were faced with a multiplicity of different forms and procedures for tire registration. Currently, the regulation merely requires manufacturers and retreaders to supply a "means" of registration. The proposed rule also envisioned that a copy of the form would be provided to the first purchaser and that manufacturers and retreaders would be required to redirect registration forms which had been forwarded to them in error.

All comments received in response to the notice were sympathetic to the problems faced by the multi-brand dealers, and the majority were willing to provide a "universal form" if requested by a dealer.

Most manufacturers, however, pointed out that their exclusive dealerships had received training in the use of the current form, as had their own personnel, and that a total change-over would work a hardship without a concomitant benefit for single-brand dealers. In view of these comments, NHTSA has decided to promulgate the universal registration format, which appears as Fig. 3, as an optional format to be followed if requested by a dealer and as a guide if a dealer prefers to supply his own forms.

The proposal to require tire manufacturers and retreaders to forward all misdirected registration forms within 30 days was universally opposed by new-tire manufacturers, who stated that they are currently participating in a voluntary but limited program for forwarding these misdirected forms. Furthermore, new-tire manufacturers believe they should not be responsible for misdirected retreaded tire registration forms, as there are over 5,000 tire retreaders in the country and such a task would be formidable. One new-tire manufacturer indicated that he had received over 15,000 misdirected retreaded tire registration forms during January 1973. The docket contained only one submission from the retreading industry, and it did not deal with the problem of misdirected forms.

It also appears from the comments received and other information available to NHTSA that new-tire manufacturers maintain a computer-based registration process, while only approximately 25% of the retreading industry utilizes computers for this purpose. Thus, the requirement for forwarding all misdirected forms would fall heavily on both segments of the industry, new-tire manufacturers in that most misdirected forms appear to be sent to them and retreaders in that a majority are ill-equipped to carry out the forwarding functions.

Therefore, rather than issue an all-inclusive forwarding requirement at this time, NHTSA has decided to require only that new-tire manufacturers redirect new tire registration forms erroneously forwarded to them. Further, the NHTSA has determined that a 90-day forwarding period will be sufficient, rather than the 30 days originally proposed. It is expected that the use of the manufacturer's logo on the universal registration format and increased vigilance

on the part of the industry will substantially curtail the number of misdirected forms. If it later appears that tire registrations are not being properly received, the NHTSA intends to take further action in this area.

The notice proposed that tire manufacturers furnish their dealers with duplicate copies of the registration form so that a copy could be given to consumers at the time of purchase. This provision was objected to by all new-tire manufacturers and the retreaders' association. In their view, the increased expense served no viable function as Part 574 currently requires all purchasers to be notified by certified mail of safety defects. They argued that the possession of a duplicate registration form would not aid the purchaser in the case of recall. The manufacturers also said that the completion of registration forms is often reserved until the end of the day or other slack time, and further that the

consumer automatically receives a copy of his tire identification number on the guarantee if one is given.

The NHTSA finds these arguments to have merit, and the requirement to give the purchaser a copy of the registration form is deleted from the final rule.

In consideration of the foregoing, 49 CFR 574.7 is amended....

Effective date: September 3, 1974.

(Secs. 103, 112, 113, 119, 201, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1402, 1407, 1421; delegation of authority at 49 CFR 1.51.)

Issued on May 28, 1974.

James B. Gregory
Administrator

39 F.R. 19482
June 3, 1974

PREAMBLE TO AMENDMENT TO PART 574—TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice 21)

This notice amends 49 CFR Part 574 to provide that the Universal Registration Forms supplied by dealers must conform in size and be similar in format to Figure 3 of the regulation.

On June 2, 1974, 49 CFR Part 574 was amended to require a Universal Registration Format when tire registration forms are supplied by manufacturers to dealers (39 F.R. 19482). Three petitions for reconsideration were received in response to this notice. All three, Michelin Tire Corporation, Rubber Manufacturers Association, and the Firestone Tire and Rubber Company, requested that the regulation be amended to require that dealer-supplied registration forms also conform in size and be similar in format to Figure 3 of the regulation. The petitioners pointed out that registration handling methodology has been standardized throughout the industry, and that the use of different sizes and formats would be costly and inefficient. The NHTSA concurs in this assessment, and therefore amends 49 CFR 574.7(a) to require that the dealer-supplied forms must conform in size and be similar in format to Figure 3.

In addition, Firestone petitioned to revise Figure 3 slightly and to extend the effective date of the amendment to 120 days after the response to the petitions for reconsideration. Since 49 CFR 574.7 currently requires only that the forms be "similar" to Figure 3, Firestone's proposed modification is authorized by the regulation and no amendment to the standard is needed. Firestone's request to extend the effective date of the standard is denied, as NHTSA has determined sufficient lead time was available from the date the amendment was issued to prepare forms.

In consideration of the foregoing, the last sentence of 49 CFR 574.7(a) is amended. . . .

Effective date: November 1, 1974.

(Secs. 103, 112, 113, 119, 201, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1402, 1407, 1421; delegation of authority at 49 CFR 1.51.)

Issued on October 29, 1974.

James B. Gregory
Administrator

39 F.R. 38658

November 1, 1974

PREAMBLE TO AMENDMENT TO PART 574—TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice 22)

This notice corrects the authority citations to Part 574, *Tire Identification and Recordkeeping*, and makes other small corrections of citations in the text of the regulation to reflect statutory amendments. This correction is being made to conform the statutory authority citations to the existing statute.

Effective dates: Since these technical corrections do not affect the responsibilities under the regulation, they are made effective December 26, 1978.

For further information contact:

Roger Tilton, Office of Chief Counsel,
National Highway Traffic Safety Administration,
400 Seventh Street, S.W., Washington,
D.C. 20590 (202-426-2992).

Supplementary information: Since issuance of the Tire Identification and Recordkeeping regulation, several changes have been made to the agency's authorizing statute that require NHTSA to correct the authority citations of the regulation. While authority citations found in NHTSA's regulations and standards are not parts of the rules, they are useful to those who wish to review the legislative background of the rulemaking action. Therefore, NHTSA corrects the authority citations for clarity and to provide information to those who are interested.

The agency also corrects Part 574.2 and 574.8 by altering the existing reference to section 113. Section 113 was the safety defect and noncompliance notification section of the National Traffic

and Motor Vehicle Safety Act of 1966 (Pub. L. 89-563). Section 102 of the 1974 Motor Vehicle and Schoolbus Safety Amendments (Pub. L. 93-492) transferred the notification provisions from section 113 to section 151 and 152 of the Safety Act, as amended (15 U.S.C. 1411 and 1412). Since the regulation currently refers to the old Act rather than the Act as amended, the agency is correcting the affected provisions of the regulation to bring them up to date.

Since this notice simply corrects references in the regulation and its authority citations without altering any of its substantive provisions, the Administrator finds that notice is unnecessary and that an immediate effective date is in the public interest.

In consideration of the foregoing, Volume 49 of the Code of Federal Regulations, Part 574, *Tire Identification and Recordkeeping*, is amended. . . .

(Secs. 103, 108, 112, 119, 201, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1397, 1401, 1407, 1421); Secs. 102, 103, 104, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1397, 1401, 1411-1420); delegation of authority at 49 CFR 1.50).

Issued on December 18, 1978.

Joan Claybrook
Administrator

**43 F.R. 60171
December 26, 1978**

PREAMBLE TO AMENDMENT TO PART 574—TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice 23)

Action: Amendment of rule.

Summary: Congress has recently amended the National Traffic and Motor Vehicle Safety Act of 1966 (the Safety Act) to exempt manufacturers of retreaded tires from the registration requirements of the Act. This notice makes conforming amendments to the regulations implementing the tire registration requirements of the Act. The amendment is being published as a final rule without notice and opportunity for comment and is effective immediately, rather than 180 days after issuance, since the agency lacks discretion on the manner implementing this Congressional mandate.

Effective date: February 8, 1979.

For further information contact:

Arturo Casanova, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202) 426-1715.

Supplementary information: Congress has recently enacted the Surface Transportation Assistance Act of 1978, P.L. 95-599. Section 317 of that Act amends the Safety Act by exempting manufacturers of retreaded tires from the registration requirements of section 158(b) of the Safety Act.

This amendment modifies the requirements of Part 574 to specify that manufacturers of retreaded tires are not subject to the mandatory registration requirements set forth in that Part. Manufacturers of retreaded tires are free to continue voluntarily registering the tires, and the agency encourages these manufacturers to provide some means for notifying purchasers in the event of a recall of tires that do not comply with

federal safety standards or contain a safety-related defect. However, this choice will be left to the individual retreaders.

The remaining obligations of retreaders under Part 574 are set forth in §§ 574.5 and 574.6, which provisions are not affected by this amendment. Those sections require that the retreader label contain certain information on its tires. These provisions allow a retreader who determines that some of its tires do not comply with a Federal safety standard or contain a safety-related defect to warn the public of that fact, and indicate the label numbers of the affected tires.

Since Congress has amended the Safety Act to exempt the manufacturers of retreaded tires from the registration requirements, this amendment of Part 574 is published without notice and opportunity for comment. The Administrator finds good cause for foregoing these procedures in this instance, because Congress has specifically mandated this action, and the agency has no authority to disregard a legislative mandate. For the same reason, this amendment is effective immediately, rather than 180 days after issuance.

The agency has reviewed the impacts of this amendment and determined that they will reduce costs to the manufacturers. Further, the agency has determined that the amendment is not a significant regulation within the meaning of Executive Order 12044.

The program official and attorney principally responsible for the development of this amendment are Arturo Casanova and Stephen Kratzke, respectively.

In consideration of the foregoing, 49 CFR Part 574, Tire Identification and Recordkeeping, is amended

AUTHORITY : Sections 103, 108, 112, 119, 201, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1397, 1401, 1407, 1421) ; secs. 102, 103, 104, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1411-1420) ; Stat. 2689 (15 U.S.C. 1418) ; delegation of authority at 49 CFR 1.51.

Issued on January 31, 1979.

Joan Claybrook
Administrator

44 F.R. 7963
February 8, 1979

PREAMBLE TO AN AMENDMENT TO PART 574

Tire Identification and Recordkeeping; Interim Final Rule and Request for Comments (Docket No. 70-12; Notice 24)

ACTION: Interim final rule and request for comments.

SUMMARY: In October 1982, Congress adopted an amendment to the National Traffic and Motor Vehicle Safety Act of 1966 (the Safety Act) regarding tire registration requirements of 49 CFR Part 574, *Tire identification and recordkeeping*. Those requirements are intended to provide tire manufacturers and brand name owners with the names of tire purchasers so that the purchasers can be notified in the event that their tires are determined to contain a safety defect or to fail to comply with a safety standard.

The amendment prohibits this agency from requiring independent tire dealers and distributors (i.e., those whose business is not owned or controlled by a tire manufacturer or brand name owner) to comply with the existing tire registration requirements in Part 574. All other tire dealers and distributors must continue to comply with those requirements.

The prohibition regarding independent dealers and distributors is self-executing and became effective on the date of enactment, October 15, 1982. In place of the existing requirements, the amendment directed the Secretary of Transportation to require each of those dealers and distributors to furnish a registration form to each tire purchaser after the dealer or distributor has first filled in the tire identification number(s) of the tire(s) sold on the form. Purchasers wishing to register their tires may then do so by filling in their name on the form and mailing the completed form to the tire manufacturer or brand name owner. Because the new

statutory requirements regarding registration of tires sold by independent dealers and distributors are not self-executing, they do not affect those dealers and distributors until this agency has issued and put into effect a rule adopting those requirements. This rule accomplishes that result.

The Safety Act amendment also requires that the agency specify the format and content of the forms to be used in complying with the new requirements. This rule sets forth those specifications.

DATES: This rule is effective beginning June 20, 1983.

SUPPLEMENTARY INFORMATION: Prior to the enactment of the Motor Vehicle Safety and Cost Savings Authorization Act of 1982 (hereinafter referred to as the Authorization Act) (Pub. L. 97-311), all tire dealers and distributors were required by 49 CFR Part 574, *Tire identification and recordkeeping*, to register all sales of new tires. Under that regulation, NHTSA required dealers and distributors to write specified information (i.e., the purchaser's name and address, the dealer's name and address, and the identification numbers of the tires) on a registration form and send the completed form to the tire manufacturer, brand name owner (hereinafter referred to as "tire manufacturer") or its designee.

Tire registration provisions of the Authorization Act. Compliance with the requirement for mandatory registration was uneven. While virtually all tires on new vehicles were registered, slightly less than half of all replacement tires were registered. In its report on the Authorization Act, the House Committee on Energy and Commerce found that

dealers and distributors whose business was owned or controlled ¹by a tire manufacturer registered between 80 and 90 percent of the replacement tires they sold. However, dealers and distributors whose businesses were not owned or controlled by a tire manufacturer (hereinafter collectively referred to as "independent dealers") registered only 20 percent of the replacement tires that they sold (*Id.* at 8).

In an effort to improve the registration rate for the tires sold by independent dealers, Congress included a tire registration provision in the Authorization Act. That provision amended section 158(b) of the National Traffic and Motor Vehicle Safety Act of 1966 (hereinafter referred to as "Safety Act") (15 U.S.C. 1381 *et seq.*) to prohibit the Secretary of Transportation from requiring independent dealers to comply with the Part 574 requirements for mandatory registration. (The Secretary's authority under the Safety Act has been delegated to the NHTSA Administrator, 49 CFR 1.50.) Dealers and distributors other than independent dealers (hereinafter collectively referred to as "non-independent dealers") remain subject to these requirements.

The prohibition concerning independent dealers was self-executing (i.e., its effectiveness was not conditioned on prior action by this agency) and became effective on the date of enactment of the Authorization Act, October 15, 1982. Thus, even without any amendment by the agency to Part 574, its requirements for mandatory registration ceased on October 15 to have any effect insofar as they apply on their face to independent dealers.

In place of the mandatory registration process, Congress directed that a voluntary process be established for independent dealers. Section 158(b) (2) (B) provides

The Secretary shall require each dealer and distributor whose business is not owned or controlled by a manufacturer of tires to furnish the first purchaser of a tire with

a registration form (containing the tire identification number of the tire) which the purchaser may complete and return directly to the manufacturer of the tire. The contents and format of such forms shall be established by the Secretary and shall be standardized for all tires. Sufficient copies of such forms shall be furnished to such dealers and distributors by manufacturers of tires.

Under the voluntary process, the primary responsibility for registering tires sold by independent dealers is shifted from the dealer to the purchaser. NHTSA is mandated by section 158(b) (2) (B) to require the independent dealer to (1) fill in the identification number(s) of the tire(s) sold to a purchaser on a registration form and then (2) hand the form to the purchaser. If the purchaser wishes to register the tires, he or she may do so by filling in his or her name and address, adding postage and sending the completed form to the tire manufacturer or its designee.

In addition, NHTSA is required by section 158(b) (3) to evaluate the effect of the switch to voluntary tire registration on the registration rate for tires sold by independent dealers. That evaluation must be conducted at the end of the two year period following the effective date of the Authorization Act, i.e., October 15, 1984. In the evaluation, the agency is required to assess the efforts of the independent dealers to encourage consumers to register their tires and the extent of the dealers' compliance with the voluntary registration procedures established by this notice. NHTSA is required also to determine whether to impose any additional requirements on dealers for the purpose of promoting higher registration levels.

The agency has received several telephone inquiries from independent dealers as to whether, notwithstanding the amendments to section 158(b), they could elect to continue following the requirements for mandatory registration. It does not appear that the independent dealers have this option. Section 158(b) (2) (B) specifies that the agency "shall require *each* . . . (independent dealer) to furnish the first purchaser of a tire with a registration form (containing the tire identification number of the tire) which the purchaser may complete and return directly to the manufacturer of the tire." However, nothing in the section appears to preclude the purchaser from voluntarily giving the form back to the dealer for transmission to the manufacturer or his designee. Comments are requested on the issues raised by these inde-

¹ As explained in the House Report on the Authorization Act, "'company owned and controlled' means a significant component of direct equity ownership of the dealer or distributor which gives that party, as a factual matter, effective control of the business. Thus, it would not encompass buy-sell agreements, mortgages, notes, franchise agreements or similar financial arrangements which a tire company may have with a dealer or distributor." H.R. Rep. No. 576, 97th Cong. 2d Sess. 8-9 (1982).

pendent dealers as well as on the reasons why some independent dealers desire the opportunity to continue mandatory registration.

Congress made no provision for immediate replacement of mandatory registration by voluntary registration. Unlike the amendment prohibiting the agency from requiring independent dealers to follow the mandatory registration process, the amendment concerning voluntary registration is not self-executing. Before voluntary registration can be initiated, the agency must first issue a rule requiring participation by the independent dealers in the voluntary registration process and put that rule into effect.

New standardized registration forms. In addition to setting forth such a requirement, this rule also specifies the content, format and size of the registration forms to be used by the independent dealers. This aspect of the rule responds to the directive in section 158(b) (2) (B) for the standardization of such forms. NHTSA wishes to emphasize that this rule does not require standardization of the forms used by nonindependent dealers. Tire manufacturers need not make any change in the forms which they have been providing those dealers.

In selecting interim requirements standardizing the content, format and size of registration forms to be provided to or used by independent dealers, NHTSA has made the minimum changes to Part 574 necessary to comply with section 158(b) (2). This approach will minimize both the burdens of this rulemaking and the period during which independent dealers are not subject to any registration requirements.

The new standardized forms would be very similar to the forms which the manufacturers have been providing dealers over the last eight years. Since 1974, Part 574 has specified the type of information for which blanks and titles are to appear on registration forms. (§ 574.7(a) (1)–(3)). This information includes the name and address of the tire purchaser, the tire identification number, and the name and address of the dealer or other means by which the manufacturer could identify the dealer. This rule would require the new registration forms for independent dealers to have blanks and titles for the same information.

This rule also adopts as mandatory the format specifications which have appeared as a suggested

guide in Part 574. Those specifications have been generally followed since 1974 without any complaints from either manufacturers or dealers.

In recognition of the shift of primary responsibility for registering tires from the independent dealer to the purchaser, this rule substitutes a new reminder on the form. The old reminder warned the dealer that registration of tires was required by Federal law. The new reminder informs the purchaser that completing and mailing the form will enable the tire manufacturer to contact him or her directly in the event that the tire is recalled for safety reasons, i.e., if the tire is determined to contain a safety defect or to fail to comply with an applicable safety standard.

Both a mailing address and a statement about appropriate postage must be printed on each form. The House report states that the form is to be presented to the purchaser in a manner suitable for mailing. (H.R. Rep. No. 576, 97th Cong. 2d Sess. 8 (1982)). Thus, the form itself must be mailable without the necessity of the purchasers providing an envelope. Forms provided by the manufacturers must be preaddressed to either the manufacturer or its designee. As to postage, the form must bear the statement that first class postage is required. This notation will ensure that the purchaser realizes that post card postage is not sufficient. If insufficient postage were placed on the form, it would not be delivered and the tire would not be registered. The need for first class postage is explained below.

This rule standardizes the size of the form so that all forms will be mailable using a single stamp of the same class of postage. The suggested guide in Part 574 specifies dimensions of $3\frac{1}{4}$ inches in width and $7\frac{3}{8}$ inches in length. This rule does not adopt those dimensions because, under existing postal regulations, a form $3\frac{1}{4}$ inches by $7\frac{3}{8}$ inches is too small to be mailed unless enclosed in an envelope. Since NHTSA does not wish to require manufacturers to provide self-addressed envelopes, the agency has adopted the dimensions in the postal regulations for cards mailable without envelopes under first class postage as the dimensions for the registration forms. Thus, the forms must be rectangular; not less than .007 inches thick; more than $3\frac{1}{2}$ inches, but not more than $6\frac{1}{8}$ inches wide; more than 5 inches, but not more than $11\frac{1}{2}$ inches long. If any of those maxima were exceeded, a single, first class stamp would not be suf-

ficient postage. The agency has not adopted a post card-sized form due to uncertainty whether such a form would be large enough to permit the easy, legible recording of all of the necessary information.

Finally, the mandatory format requirements include a requirement that the form must show the manufacturer's name to prevent confusion of dealers and purchasers. This will enable the independent dealer to determine the brand of tire for which a particular form is to be used for registration purposes. This requirement is necessary since independent dealers often sell several different brands of tires. Since the dealer will have as many different types of registration forms as it has different brands of tires for sale, the dealer must have some way of identifying the appropriate form. The name may appear either in the mailing address or anywhere else on the form.

Continued use of old registration forms. During the limited period that this interim rule is in effect, the agency will provide the option of using existing forms instead of the new standardized ones. Election of that option is conditioned upon the tire purchaser's being provided not only with a form bearing the tire identification numbers and the dealer's name and address, but also with an envelope that is suitable for mailing the form, bears the same reminder to consumers required on the new forms, and is addressed to the tire manufacturer or its designee.

Source of registration forms. Under the requirements for mandatory registration requirements which previously applied to independent dealers, those dealers were permitted to use either the registration forms provided by the tire manufacturers or use forms obtained from other sources. The latter type of form was typically one purchased from a clearinghouse. The clearinghouse forms were not manufacturer specific (i.e., did not bear any mark or information identifying a particular tire manufacturer or brand name) and thus could be used to register any manufacturer's tires. When the forms of a clearinghouse were completed, they were returned to the clearinghouse. The clearinghouse would then forward them to appropriate manufacturers.

Except under the circumstances described above in the discussion of the temporary continued use of existing forms, the amendments to section 158(b)

and their legislative history compel an end to the practice of using forms which are not addressed to the manufacturer or its designee. Forms may continue to be addressed to an intermediary such as a clearinghouse if that intermediary has been designated by a tire manufacturer to serve as an initial recipient or as an ultimate repository for registration forms. Further, the amendments require standardization of the forms to be used by independent dealers. Hence, while independent dealers are still permitted to obtain registration forms from a source other than the tire manufacturers, those forms must comply with all of the requirements applicable to forms provided by manufacturers.

Responsibility for filling out and mailing registration form. The responsibility for completing the registration forms would be divided between independent tire dealers and purchasers. The tire dealer would be required to fill in the identification number of each tire sold and his name and address or some other unique identifier like a code number. The necessity for having the dealer's name and address arises from the statutorily-required evaluation of the voluntary registration requirements. In order to conduct that evaluation, the agency will need information on the registration rates for tires sold by individual independent dealers. This information will aid NHTSA in identifying different levels of registration among dealers and evaluate the reasons underlying those differences. The simplest and most effective way of ensuring the recording of the dealer's names and addresses is to require the recording of the information by the party who can most accurately provide it. A dealer's proper name and address are obviously better known to that dealer than to his customers. Further, through the use of an inexpensive rubber stamp, the dealer can record that information on a form much more easily and quickly than a tire purchaser can.

After the dealer has filled in this information and handed the card (and envelope under the option for using existing forms) to the tire purchaser, it is the purchaser's responsibility to complete the registration process. If a purchaser wishes to register his new tire, he must fill in his name and address, place the appropriate postage on the form (or envelope) and mail it.

Other issues. Any questions concerning the classification of a particular dealer as independent

or otherwise should be addressed in writing to the Chief Counsel, NHTSA, at the street address given above. The legislative history cited early in this notice provides some guidance on this point. NHTSA notes that it is possible for motor vehicle dealers to be considered tire dealers in certain situations, as specified in 49 CFR 574.9. Whether a new motor vehicle dealer is required to follow the procedures for mandatory or voluntary registration depends on whether the dealer is owned or controlled by a tire manufacturer. The agency believes that most motor vehicle dealers would be considered independent dealers for the purposes of Part 574. These motor vehicle dealers are reminded that they should provide the motor vehicle purchaser with a voluntary tire registration form at the time they deliver the new vehicle to the purchaser, and with the identification number(s) of all of the vehicle's tires and the dealer's name and address entered on the form.

Enforcement of the new provisions of Part 574 would be carried out under sections 108–110 of the Safety Act. Failure to comply with the new provisions would be a violation of section 108(a) (2) (D) which prohibits failure to comply with any order or other requirement applicable to any manufacturer, distributor or dealer pursuant to Part B of the Safety Act. Section 109(a) provides that a civil penalty of \$1,000 may be assessed for each violation of section 108. Under section 110(a), the agency could seek an injunction against a violator of section 108 to prevent further violations.

The information collection requirements contained in this rule have been submitted to the Office of Management and Budget (OMB) for its approval, pursuant to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). A notice will be published in the *Federal Register* when OMB approves this information collection.

As noted above, this rule is being issued as an interim final rule, without prior notice and opportunity for comment. NHTSA believes that there is good cause for finding that notice and comment rulemaking is impracticable and contrary to the public interest in this instance. The absence of any tire registration requirements for independent dealers has created an emergency necessitating immediate action.

The agency is concerned that, until a rule regarding voluntary registration can be implemented, registration of tires sold by independent dealers may fall well below the 20 percent rate which existed prior to the enactment of the Authorization Act on October 15. As long as this situation lasts, substantial numbers of tire purchasers may be unable to register their tires. Although some efforts are being made by independent dealers to continue to follow the mandatory registration process, the agency does not have any indication how widespread or successful those efforts are. Purchasers whose tires are unregistered will not receive direct notification from the manufacturer of those tires in the event that the tires are found to contain a safety defect or to fail to comply with an applicable standard. Ignorant of the safety problem, the purchasers will continue to drive on tires presenting a threat to their safety and that of other motorists.

Providing opportunity for comment is also unnecessary to a substantial extent. Many of the new provisions of Part 574 were expressly mandated by Congress.

Nevertheless, this agency is providing an opportunity to comment on this notice during the 45 days following its publication in the *Federal Register*. Those comments will be carefully considered since the agency does not intend to maintain this rule as the permanent final rule on voluntary registration. A permanent final rule will be issued not later than October 14, 1983.

NHTSA seeks comments from all interested parties on what requirements should be included in the permanent final rule. Pursuant to a contract with the agency, American Institutes for Research in the Behavioral Sciences has explored ways of more effectively structuring and wording the voluntary registration forms to induce as many purchasers as possible to complete their forms and send them to the manufacturers. Copies of the results of the Institute's work have been placed in the docket. Comments are requested on that work. Comments are also requested on the feasibility of using post card sized forms. The agency is uncertain whether those forms would provide sufficient space to permit the easy, legible recording of the requisite information. If so, then this alternative appears attractive since the lower postal rate for such cards could induce a higher rate of registration by purchasers.

The results of the contract study on registration forms and all comments submitted in response to this notice will be considered by the agency in selecting the provisions to include in the permanent final rule. If, after examining the study, the agency determines that the registration forms for independent dealers should be significantly altered, a notice of proposed rulemaking will be issued to ensure full comment on those changes.

The requirements of this rule become effective 30 days after the date on which it is published in the *Federal Register*. The 30-day period provides adequate time for tire manufacturers to print and distribute the new voluntary registration forms (or envelopes, under the option for using existing forms) to the independent dealers. Since this rule requires no change to the forms provided to or used by nonindependent dealers, manufacturers and nonindependent dealers may continue to use their current forms.

NHTSA has analyzed the impacts of this action and determined that it is neither "major" within the meaning of Executive Order 12291 nor "significant" within the meaning of the Department of Transportation regulatory policies and procedures. The requirements concerning the registration forms for independent dealers will impose minimally higher costs on tire manufacturers. Compared to the costs and administrative burdens to independent dealers of complying with the Part 574 requirements for mandatory registration, independent dealers should achieve slight savings under this rule. Requirements for nonindependent dealers are not changed by this rule. Consumers purchasing tires from independent dealers will now have to pay 20 cents for postage if they wish to register those tires. The bearing of this cost by consumers has been mandated by Congress. For these reasons, a full regulatory evaluation has not been prepared.

The agency has also considered the impacts of this action on small entities, and determined that this rule will not have a significant economic impact on a substantial number of those small entities. The agency believes that few if any of the tire manufacturers are small entities. Although many dealers are considered to be small entities, this rule will not have a significant impact on them. The requirements for tire manufacturers are unchanged except that the size, content and cost of

the registration forms they supply to independent dealers would be slightly different. No change at all is made in the requirements for nonindependent dealers. Independent dealers will realize minimal savings from this rule. Small organizations and governmental units which purchase tires from independent dealers will have to pay postage to register those tires. However, those costs will not be significant.

All interested persons are invited to comment on this interim final rule. It is requested but not required that 10 copies be submitted.

All comments must be limited not to exceed 15 pages in length. Necessary attachments may be appended to these submissions without regard to the 15 page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. A request for confidentiality should be accompanied by a cover letter setting forth the information specified in the agency's confidential business information regulation (49 CFR Part 512).

All comments received before the close of business on the comment closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. However, the rulemaking action may proceed at any time after that date, and comments received after the closing date and too late for consideration in regard to the action will be treated as suggestions for future rulemaking. The NHTSA will continue to file relevant material as it becomes available in the docket after the closing date, and it is recommended that interested persons continue to examine the docket for new material.

Those persons desiring to be notified upon receipt of their comments in the rules docket should enclose, in the envelope with their comments, a self-addressed stamped post card. Upon

receiving the comments, the docket supervisor will return the post card by mail.

List of Subjects in 49 CFR 574

Consumers protection, Motor vehicle safety, Motor vehicles, Rubber and rubber products, Tires.

PART 574—(Amended)

In consideration of the foregoing, the following amendments are made to Part 574, Tire Identification and Recordkeeping, of Title 49 of the Code of Federal Regulations:

1. Section 574.1 is revised to read as follows:

§574.1 Scope.

This part sets forth the method by which new tire manufacturers and new tire brand name owners shall identify tires for use on motor vehicles and maintain records of tire purchasers, and the method by which retreaders and retreaded tire brand name owners shall identify tires for use on motor vehicles. This part also sets forth the methods by which independent tire dealers and distributors shall record, on registration forms, their names and addresses and the identification number of the tires sold to tire purchasers and provide the forms to the purchasers, so that the purchasers may report their names to the new tire manufacturers and new tire brand name owners, and by which other tire dealers and distributors shall record and report the names of tire purchasers to the new tire manufacturers and new tire brand name owners.

2. Section 574.3 is amended by adding a new paragraph (c) (1) immediately after “*Definitions used in this part.*” and redesignating existing paragraphs (c) (1) through (c) (4) as paragraphs (c) (2) through (c) (5):

§ 574.3 Definitions.

* * * * *

(c) * * *

(1) “Independent” means, with respect to a tire distributor or dealer, one whose business is not owned or controlled by a tire manufacturer or brand name owner.

* * * * *

3. Section 574.7 is revised to read as follows:

§ 574.7 Information requirements—new tire manufacturers, new tire brand name owners.

(a) (1) Each new tire manufacturer and each new tire brand name owner (hereinafter referred to in this section and § 574.8 as “tire manufacturer”) or its designee, shall provide tire registration forms to every distributor and dealer of its tires which offers new tires for sale or lease to tire purchasers.

(2) Each tire registration form provided to independent distributors and dealers pursuant to paragraph (a) (1) of this section shall comply with either paragraph (a) (2) (A) or (B) of this section.

(A) Each form shall contain space for recording the information specified in paragraphs (a) (5) (A) through (a) (5) (C) of this section and shall conform in content and format to Figures 3a and 3b. Each form shall be:

- (i) Rectangular;
- (ii) Not less than .007 inches thick;
- (iii) Greater than 3½ inches, but not greater than 6¼ inches wide; and
- (iv) Greater than 5 inches, but not greater than 11½ inches long.

(B) Each form shall comply with the same requirements specified in paragraph (a) (4) of this section for forms provided to distributors and dealers other than independent distributors and dealers.

(3) Each tire manufacturer or designee which does not give an independent distributor or dealer forms complying with paragraph (a) (2) (A) of this section shall give that distributor or dealer envelopes for mailing forms complying with paragraph (a) (2) (B) of this section. Each envelope shall bear the name and address of the tire manufacturer or its designee and the reminder set forth in Figure 3a.

(4) Each tire registration form provided to distributors and dealers, other than independent distributors and dealers, pursuant to paragraph (a) (1) of this section shall be similar in format and size to Figure 4 and shall contain space for recording the information specified in paragraph (a) (5) (A) through (a) (5) (C) of this section.

(5) (A) Name and address of the tire purchaser.

(B) Tire identification number.

(C) Name and address of the tire seller or other means by which the tire manufacturer can identify the tire seller.

(b) Each tire manufacturer shall record and maintain, or have recorded and maintained for it by a designee, the information from registration forms which are submitted to it or its designee. No tire manufacturer shall use the information on the registration forms for any commercial purpose detrimental to tire distributors and dealers. Any tire manufacturer to which registration forms are mistakenly sent shall forward those registration forms to the proper tire manufacturer within 90 days of the receipt of the forms.

(c) Each tire manufacturer shall maintain, or have maintained for it by a designee, a record of each tire distributor and dealer that purchases tires directly from the manufacturer and sells them to tire purchasers, the number of tires purchased by each such distributor or dealer, the number of tires for which reports have been received from each such distributor or dealer other than an independent distributor or dealer, the number of tires for which reports have been received from each such independent distributor or dealer, the total number of tires for which registration forms have been submitted to the manufacturer or its designee, and the total number of tires sold by the manufacturer.

(d) The information that is specified in paragraph (a)(5) of this section and recorded on registration forms submitted to a tire manufacturer or its designee shall be maintained for a period of not less than three years from the date on which the information is recorded by the manufacturer or its designee.

4. Section 574.8 is revised to read as follows:

§ 574.8 Information requirements—tire distributors and dealers.

(a) *Independent distributors and dealers.* (1) Each independent distributor and each independent dealer selling or leasing new tires to tire purchasers or lessors (hereinafter referred to in this section as "tire purchasers") shall provide each tire purchaser at the time of sale or lease of the tire(s) with a tire registration form.

(2) The distributor or dealer may use either the registration forms provided by the tire manufacturers pursuant to § 574.7(a) or registration forms obtained from another source. Forms obtained from other sources shall

comply with the requirements specified in § 574.7(a) for forms provided by tire manufacturers to independent distributors and dealers.

(3) Before giving the registration form to the tire purchaser, the distributor or dealer shall record in the appropriate spaces provided on that form:

(A) The entire tire identification number of the tire(s) sold or leased to the tire purchaser; and

(B) The distributor's or dealer's name and address or other means of identification known to the tire manufacturer.

(4) Multiple tire purchases or leases by the same tire purchaser may be recorded on a single registration form.

(b) *Other distributors and dealers.* (1) Each distributor and each dealer, other than an independent distributor or dealer, selling new tires to tire purchasers shall submit the information specified in § 574.7(a)(5) to the manufacturer of the tires sold, or to its designee.

(2) Each tire distributor and each dealer, other than an independent distributor or dealer, shall submit registration forms containing the information specified in § 574.7(a)(5) to the tire manufacturer, or person maintaining the information, not less often than every 30 days. However, a distributor or dealer which sells less than 40 tires, of all makes, types and sizes during a 30-day period may wait until he or she sells a total of 40 new tires, but in no event longer than six months, before forwarding the tire information to the respective tire manufacturers or their designees.

(c) Each distributor and each dealer selling new tires to other tire distributors or dealers shall supply to the distributor or dealer a means to record the information specified in § 574.7(a)(5), unless such a means has been provided to that distributor or dealer by another person or by a manufacturer.

(d) Each distributor and each dealer shall immediately stop selling any group of tires when so directed by a notification issued pursuant to sections 151 and 152 of the Act (15 U.S.C. 1411 and 1412).

Issued on April 21, 1983.

Raymond A. Peck, Jr.,
Administrator
48 F.R. 22572
May 19, 1983

PREAMBLE TO AN AMENDMENT TO PART 574

Tire Code Marks Assigned to New Tire Manufacturers

ACTION: Publication of tire code marks assigned to new tire manufacturers.

SUMMARY: The NHTSA last published a complete listing of the tire code marks assigned to new tire manufacturers in 1972. Since that time, there have been several additions and changes in names and addresses for the assigned code marks. This publication will inform the public of those additions and changes.

SUPPLEMENTARY INFORMATION: Section 574.5 of the Title 49, Code of Federal Regulations, requires tire manufacturers to mold a tire identification number onto or into the sidewall of each tire they manufacture. In the case of new tires, the first two digits of the tire identification number are the code mark assigned to the manufacturer. This code mark identifies the manufacturer and the plant where the tire was manufactured.

The NHTSA published a complete listing of the tire codes at 37 FR 342, January 11, 1972. This list

enables interested members of the public to identify the manufacturer and place of manufacture of any new tire.

Since 1972, there have been several changes in the names of the manufacturers and the plant addresses for the assigned code marks. Further, there have been some 150 additional code marks assigned for new tires since the 1972 publication. Accordingly, this updated listing of the assigned code marks for new tires is being published to bring the public up-to-date with the revisions and new code numbers which have been assigned since the publication of the 1972 list.

Issued on June 8, 1983.

Kennerly H. Digges,
*Acting Associate Administrator
for Rulemaking*
48 F.R. 27635
June 16, 1983

PREAMBLE TO AN AMENDMENT TO PART 574

Tire Identification and Recordkeeping

[Docket No. 70-12; Notice 25]

ACTION: Final rule.

SUMMARY: This final rule sets forth the requirements relating to the registration of new tires sold by independent dealers and distributors. Recording the names and addresses of the first purchasers and transmitting this information to the manufacturers will make it possible for those purchasers to be contacted in the event that the tires are recalled by the manufacturers for safety reasons. These requirements supersede those contained in the interim final rule on this subject published in the May 19, 1983, edition of the Federal Register.

This rule primarily clarifies some aspects of the provisions of the interim final rule concerning the tire registration form to be provided by the tire manufacturers to the independent dealers. These changes, which were made to maximize the registration of tires sold through independent dealers, are as follows:

(1) The size of the registration form to be given to the consumer by independent dealers has been reduced, so that only a 13-cent postcard stamp need be affixed to the registration form. The interim final rule had specified that a first-class-mail-sized card be used for the registration form. This change was made to minimize the costs for consumers to register their tires.

(2) The statement in the upper left corner of that registration form, informing the tire purchaser of the importance of completing and returning the form, has been modified so as to be more comprehensible and more effective at motivating the purchaser to register his or her tires.

(3) Instructions to the tire purchaser have been added, so that the purchaser will print instead of write his or her name on the registration form.

(4) That portion of the registration form which

is to be filled in by the independent dealer (i.e., the portion for filling in suitable identification of the dealer and the tire identification number(s) of the tire(s) sold) must be shaded with a 10-percent screen tint. This change was made to emphasize to the tire purchaser the limited amount of information which the purchaser must fill in to register his or her tires.

EFFECTIVE DATE: The changes made by this notice become effective March 25, 1984. As of that date, the tire manufacturers will be required to provide registration forms in compliance with this rule, and they must cease their distribution of the forms specified by the interim final rule. Independent dealers may continue to use the forms specified by that rule until their existing supplies of that form are exhausted or until April 1, 1984, whichever comes first.

SUPPLEMENTARY INFORMATION

Background

Motor Vehicle Safety and Cost Savings Authorization Act of 1982

The Motor Vehicle Safety and Cost Savings Authorization Act of 1982 (hereinafter referred to as "the Authorization Act") amended the National Traffic and Motor Vehicle Safety Act of 1966 (hereinafter referred to as "the Safety Act") by requiring this agency to change its tire registration requirements insofar as they applied to independent tire dealers and distributors. (This class of dealers and distributors is defined below.) These requirements are set forth in 49 CFR Part 574, *Tire Identification and Recordkeeping*. Before the Authorization Act became effective, Part 574 required all tire dealers and distributors

to comply with the mandatory registration system. Under the system, dealers and distributors were required to record certain information (i.e., the tire purchaser's name and address, seller's name and address, and the identification number(s) of the tire(s) sold) on a registration form and send the completed form to the tire manufacturer or the brand-name owner (hereinafter collectively referred to as "tire manufacturers") or a designee of the tire manufacturer.

The tire registration requirements were adopted pursuant to requirements in the Safety Act intended to insure that tire purchasers could be notified if their tires are recalled for safety reasons, either because they contain a safety-related defect or because they do not comply with an applicable safety standard. The purchasers of unregistered tires would not be directly notified in those instances and would instead unknowingly continue to drive on unsafe tires.

On examining the rate of tire registration, Congress found a substantial difference between the rates for tires sold by independent dealers (dealers and distributors whose business is not owned or controlled by a tire manufacturer) and those sold by nonindependent dealers (dealers and distributors whose business is owned or controlled by a tire manufacturer). Independent dealers, who handle slightly less than half of the replacement tires sold annually, registered about 20 percent of the tires they sold. Nonindependent dealers, whose sales account for the balance of annual replacement tire sales, registered between 80 and 90 percent of their tires.

Given the importance of tire registration to safety, Congress determined that an alternative method of registration should be instituted for tires sold by independent dealers. Accordingly, it included provisions in the Authorization Act prohibiting the Secretary of Transportation from requiring independent dealers to comply with the mandatory registration requirements. (In view of the high rate of registration of tires sold by non-independent dealers, Congress did not mandate any change in the application of the mandatory registration requirements to those dealers.) The prohibition regarding independent dealers was self-executing (i.e., its effectiveness was not conditioned on any prior rulemaking or other implementing action by this agency) and became effective on the date that the Authorization Act became law, October 15, 1982.

In lieu of requiring independent dealers to comply with the mandatory registration process, Congress directed that they comply with a voluntary registration process to be established by the Secretary. Under the voluntary process, the primary responsibility for registering tires sold by independent dealers is borne by the purchaser instead of the dealer. NHSTA is mandated by the Safety Act, as amended by the Authorization Act, to require that independent dealers (1) fill in the tire identification number(s) of the tire(s) sold to a purchaser on a registration form and then (2) give the form to the purchaser. If the purchaser wishes to register the tires, he or she may do so by filling in his or her name and address, adding postage, and sending the form to the tire manufacturer or its designee.

To ascertain whether the changes mandated by the Authorization Act have the desired effect of increasing the registration rate of tires sold by independent dealers, Congress directed NHTSA to conduct an evaluation covering the 2-year period ending October 14, 1984. Upon completion of the evaluation, NHTSA must determine the extent to which independent dealers have encouraged purchasers to register their tires and the extent to which those dealers have complied with the voluntary tire registration procedures. Further, the agency is required to determine whether to impose any additional requirements on the independent dealers or the manufacturers for the purpose of promoting higher levels of tire registration.

The provision in the Authorization Act mandating a voluntary registration system for independent dealers was not self-executing. Thus, the voluntary system could not become effective until NHTSA issued a rule establishing that system. An interim final rule doing so was published at 48 Fed. Reg. 22572, May 19, 1983, and became effective June 20, 1983.

Interim Final Rule

The interim final rule imposed the following requirements on the various parties:

Tire manufacturers. Except as noted, new registration forms had to be provided for independent dealers. All of those forms were required to be identical in format and content and within the size range specified in the interim final rule. Alternatively, the manufacturer could provide independent dealers with preaddressed

envelopes in which tire purchasers could mail the mandatory registration forms. In either case, the manufacturer would have to maintain a record of all returned registration forms for at least 3 years after receipt.

No change was made in the requirements regarding forms provided to nonindependent dealers.

Tire dealers and distributors which sell tires to other dealers and distributors. These parties are required to give the purchasing dealer or distributor the registration forms provided by the tire manufacturers so that that dealer or distributor can comply with the applicable tire registration requirements. The new forms must be provided to independent dealers.

Nonindependent dealers. No changes were made to the tire registration requirements applicable to these parties. They are still required to follow the mandatory tire registration system formerly applicable to all tire dealers. Thus, the nonindependent dealers must record the purchaser's name and address, the tire identification number(s) of the tire(s) sold, and a suitable identification of themselves as the selling dealer on a tire registration form, and return the completed forms to the tire manufacturers or their designees.

Independent dealers. These dealers were required by the interim final rule to record the tire identification number(s) of the tire(s) sold, along with their name and address, on a registration form and give the form to the tire purchaser.

The interim final rule sought comments on the issues raised by the requirements specified therein, and specifically asked commenters to address the issue of adopting the registration form devised by the American Institute for Research in the Behavioral Sciences pursuant to a contract with the agency.

Final Rule

After considering the comments on the interim final rule, NHTSA has decided to retain most of the requirements in that rule. Several changes have been made to the requirements regarding the forms to be provided to independent dealers. These changes are relatively minimal and do not disturb the essential continuity of the voluntary registration requirements. Accordingly, both the tire manufacturers and the independent dealers should be able to implement the voluntary

registration system as amended by this rule with minimal disruption to the practices they have been following since the interim final rule became effective.

Voluntary Tire Registration Procedures

Several commenters stated that independent dealers that wish to continue following the mandatory tire registration requirements should be permitted to do so. The premise underlying these comments is that mandatory registration, when properly implemented, is the most effective means of insuring that virtually all replacement tires are registered.

While NHTSA does not disagree with the premise of these commenters, the agency is not free to adopt their suggestion. Section 158(b)(2)(B) of the Safety Act specifies that this agency . . . shall require *each* . . . (independent dealer) to furnish the first purchaser with a registration form (containing the tire identification number of the tire) which the purchaser may complete and return directly to the manufacturer of the tire. (Emphasis added.)

This mandate to the agency is completely inclusive, directing the agency to make the voluntary registration procedures applicable not simply to independent dealers in general, but to "each" independent dealer. Further, this mandate is not offset by any express authority to make exceptions.

As a practical as well as a legal matter, independent dealers may nevertheless register the tires they sell if they first comply with the voluntary registration procedures. Independent dealers are not prohibited from filling in the information required by the voluntary procedures on the forms specified by those procedures, furnished the forms to tire purchasers, and then offering to fill in the balance of the information and mail the form to the manufacturer.

Based on the comments, it appears that some commenters are confused about the status of motor vehicle dealers under the mandatory and voluntary registration procedures. The preamble to the interim final rule mentioned motor vehicle dealers only very briefly because they are minimally affected by the voluntary registration procedures. The preamble stated that there are two situations in which motor vehicle dealers are considered to be tire dealers and are required to register the tires on the vehicles as specified in

section 574.9. In these situations, the preamble noted that whether the motor vehicle dealer would be required to follow the mandatory or voluntary registration procedures would depend on whether the motor vehicle dealer's business was owned or controlled by a tire manufacturer. Since such ownership or control seems highly improbable, the preamble stated that the motor vehicle dealer would in all likelihood have to follow the voluntary registration procedures.

The discussion in that notice left some commenters uncertain whether the original equipment tires on new vehicles were subject to mandatory or voluntary registration procedures. This uncertainty apparently arose because the interim final rule made no mention of the mandatory tire registration requirements that have been applicable to original-equipment tires since 1971. No mention of these requirements was made, since the notice did not propose to amend section 574.10, which specifies the actions to be taken by motor vehicle manufacturers to register their original-equipment tires.

The two situations to which the interim final rule's preamble referred are those situations in which the motor vehicle dealer, as opposed to the motor vehicle manufacturer, is responsible for registering tires. These situations, which are relatively infrequent, are set forth in section 574.9. First, if a motor vehicle dealer sells a used vehicle or leases a vehicle for more than 60 days, and the vehicle is equipped with new tires, the dealer must register the tires on the vehicle. Second, if a motor vehicle dealer sells a new vehicle and the vehicle is equipped with tires other than those shipped with the vehicle by the motor vehicle manufacturer, the motor vehicle dealer must register the tires on the vehicle. The interim final rule was intended to make clear that motor vehicle dealers whose business is not owned or controlled by a tire manufacturer should follow the voluntary registration procedures in those two rare types of situations, when the vehicle dealer is responsible for registering the tires on the vehicle.

One commenter urged that NHTSA delete the requirement that independent dealers record their name and address on the registration form before giving that form to the tire purchaser. This commenter noted that Congress stated the Authorization Act's voluntary registration provisions had been adopted partially for the purpose

of reducing the burdens which mandatory registration procedures placed on independent dealers. Further, the commenter asserted that the Authorization Act requires only that the independent dealers record the tire identification number on the registration form, and that the absence of any mention of further specific information to be filled in by independent dealers is evidence that Congress did not intend those dealers to have to fill in any information other than the identification number. Finally, this commenter noted that NHTSA had indicated in the preamble to the interim final rule that the dealer's name and address was needed on the registration form to aid the agency in evaluating the voluntary registration process. This commenter stated that it would be sufficient for evaluation purposes for the registration forms used by independent dealers to show simply that they came from that class of dealers, instead of identifying a specific independent dealer. It was further suggested that this information would be all that was needed for the agency to determine the extent to which voluntary registration had been successful at increasing the rate of tire registration for tires sold by independent dealers.

Similarly, two tire manufacturers commented that a manufacturer should not be required any longer to maintain records which show, for each of its tires sold by an independent dealer, the identity of that particular dealer. They argued that manufacturers should only be required to maintain registration for independent dealers as a group. These commenters also asserted that this information was all that the agency needed to determine whether or not voluntary registration had successfully increased the registration rate for tires sold by independent dealers.

The preamble to the interim final rule may not have adequately explained the full breadth of the evaluative task which Congress instructed the agency to perform. In order to conduct a proper evaluation which not only reports the aggregate results of the voluntary registration program but also attempts to explain those results, the agency will need to be able to determine registration rates for individual dealers. With that ability, the agency can differentiate dealers with high rates from dealers with low ones and then proceed to attempt to assess the reasons for those differences. Having performed that analysis, the agency would be in a position to provide Congress

with insight about the impact of the voluntary registration program. It would also enable the agency to determine what additional requirements, if any, should be adopted to improve the registration program. NHTSA may find that those improvements can be more effectively obtained by enforcing the requirements established by this notice than by imposing additional requirements on all independent dealers.

NHTSA believes that it has authority under the Authorization Act to require independent dealers to record not only the tire identification numbers but also their names and addresses on registration forms. There is no express prohibition against the agency's requiring dealers to fill in more than the tire identification numbers. While the Authorization Act makes no mention of requiring dealers to fill in their names and addresses, the agency does not regard that fact as dispositive. The Authorization Act does not, in fact, specify that the dealer's name and address is to be filled in by either the dealer or the purchaser. Since there isn't any clear indication that it was Congress' intent that this information no longer be required, the agency will not infer such intent from Congress' decision not to assign that task expressly to any particular party. It appears that Congress has left the question of that assignment to NHTSA's discretion. Since the names and addresses of dealers have long been recorded on registration forms and since that information is needed to enable the agency to conduct an effective evaluation, this agency believes that it should continue to be recorded. In view of the fact that dealers are more likely than purchasers to provide this information accurately, and since dealers can easily resort to the expediency of a stamp bearing their name and address, NHTSA reaffirms its decision to assign the task of filling in that information to the dealers.

As to the tire manufacturers, the burden on them regarding the identity of specific independent dealers is simply to continue doing what they have been doing since 1971, i.e., maintaining registration records for each dealer. The agency believes that continued maintenance of these records is warranted by the value of dealer-specific information to the evaluation and to tire recall campaigns. In fact, the agency recently issued a special order to nine tire manufacturers to obtain information on the registration rates for individual independent dealers. The agency will

continue to monitor those rates.

Several commenters suggested that the agency, when conducting its evaluation of the effect of the voluntary registration program on the registration rate, determine its own baseline for registration of tires sold by independent dealers before that program began. The commenters urged that the agency not adopt the 20-percent rate mentioned in the legislative history of the Authorization Act. In lieu of that figure, the commenters offered several lower ones, including a figure of 7 percent. The agency intends to determine its own baseline. The special order mentioned above will provide the information necessary for that determination.

Registration Forms

In selecting the registration form to be used by independent dealers under the interim final rule, the agency consciously sought to find a form that would satisfy all of the statutory requirements for the voluntary registration system, while making as few changes as possible to existing forms being used under the mandatory registration system. This conservative approach was necessary because the amendments to the Vehicle Safety Act did not provide adequate time to follow normal rulemaking procedures and seek comments on more far-reaching changes.

To determine outside the strictures of a rigid time schedule what type of form would be most effective in inducing tire purchasers to register their tires, NHTSA contracted with American Institute for Research in the Behavioral Sciences (AIRBS) to conduct a study. AIRBS designed a postcard-size registration form separated into two parts by a line of perforation. The top part, which would be detached and retained by the purchaser, would contain a message explaining the importance of tire registration to the purchaser and motivating the purchaser to register the tires by sending the form to the manufacturer. On the reverse of the top side, there would be a space where the purchaser could record the registration information and save it for his or her personal records.

The bottom part of the AIRBS registration form would be the part that would be sent to the tire manufacturer. On one side would be the manufacturer's preprinted address. On the other would be space for filling in the tire registration information.

The agency placed the AIRBS study and form in the public docket and requested in the interim final rule that interested persons comment on the contractor's recommendations. Several commenters addressed the desirability of adopting the AIRBS form as the registration form to be used by independent dealers. Many commenters stated that a postcard-sized form was too small to allow the necessary information to be legibly recorded. One commenter argued that the AIRBS form would not be any more effective at encouraging consumers to register their tires than the simple one-part card mandated in the interim final rule, and that the AIRBS form might actually be more confusing. Another commenter objected to the AIRBS form because the perforated edge of the portion of the form to be returned to the manufacturer could not be automatically fed through a microfilming machine. The same commenter also argued that the printing costs for the AIRBS form would be about 12 percent higher than those for the form mandated in the interim final rule.

After considering these comments, NHTSA has decided not to adopt the AIRBS form. That form poses a number of potential problems which neither AIRBS nor the agency foresaw. Further, NHTSA does not believe that use of a two-part form is necessary. AIRBS stated in its study that the reason for its recommending a two-part form was its belief that the space available on a single-part form was insufficient to allow the printing of the motivational message to the consumer, the instructions, and the necessary registration information with type and spacing large enough to permit easy reading. In the agency's own judgment, the single-part form mandated by this final rule will not be overly crowded, will avoid the potential problems which commenters attributed to the two-part form, and will be almost as successful in motivating consumers to register their tires as would the two-part form.

However, the agency has adopted the AIRBS recommendation that the registration forms provided to consumers be postcard size. It will be less expensive for tire purchasers to use 13-cent postcard stamps to mail registration forms of that size, and this low cost might motivate some purchasers who would not otherwise do so to register their tires. The maximum dimensions permitted by the U.S. Postal Service for a postcard are 4¼ by 6 inches. This area is, in NHTSA's judgment, sufficient to permit the motivational message and

the space for recording the required information to appear on the same size of the card, without being overly crowded or difficult to read. Given the importance of encouraging consumers to return the completed tire registration forms, and the likely effectiveness of lower postage costs at encouraging consumers to return the forms, this rule specifies that the registration forms be of the dimensions permitted for using postcard stamps.

Some other minor changes are made in this notice to the registration form required by the interim final rule. First, the motivational message has been changed so that it is now identical to that recommended by AIRBS. The AIRBS message provided stronger encouragement to send the form to the manufacturer and will be readily understood by consumers.

Second, the agency has decided to require the form to include instructions to the tire purchaser to print his or her name and address on the form. Those instructions were inadvertently omitted from the interim final rule. They have now been added at the urging of several of the commenters.

One commenter requested that tire manufacturers be allowed to divide the spaces for recording the purchaser's name and address into little boxes so that each letter or number would be printed in a separate box. According to this commenter, this approach would help insure accurate transcription by the manufacturer of the information on the registration forms. Based on its assessment of the AIRBS study, the agency has decided not to adopt this change. AIRBS indicated to this agency that the use of boxes discourages people from filling in information on forms and that the return rate for the registration forms would therefore be higher if boxes were not used.

Third, NHTSA is adopting a requirement that contrasting shading be used for the area of the form containing the blanks to be completed by the independent dealer and that a white background be used for the areas to be completed by the tire purchasers. AIRBS recommended this requirement in its study as a means of emphasizing to the tire purchaser the minimal quantity of information which he or she must record in order to register his or her tires. AIRBS indicated that the shading could be achieved by using a 10-percent screen tint. The tinted forms would be inexpensive to produce and still easily readable by data processors.

One manufacturer commented that independent dealers should be required to enter both their name and address and their dealer identification number assigned by the manufacturer on the registration form. The dealer identification number is a unique identifier assigned by a tire manufacturer to each dealer selling that manufacturer's tires. This commenter asserted that requiring the dealer identification number to be placed on the registration forms would greatly simplify the data-processing task for the manufacturer as it recorded the information from the registration forms sent in by tire purchasers.

NHTSA agrees that such a requirement would simplify the manufacturers' task, but only at the cost of significantly complicating the registration responsibilities of the independent dealers. The dealer identification numbers assigned to a particular dealer are not coordinated among the various tire manufacturers. Thus, an independent dealer which sells tires produced by seven different manufacturers would have seven different dealer identification numbers assigned to it. The interim final rule required independent dealers to record their name and address on the registration form. This could be done simply by purchasing and using a rubber stamp with the dealer's name and address on it. If the final rule were amended to require the dealer to also record its dealer identification number, and the independent dealer sold seven different manufacturers' tires (as in the example above), the dealer would either have to fill in its name, address, and identification number by hand on each registration form or buy seven different rubber stamps. If it chose to purchase seven different rubber stamps, the dealer would also have to be certain that it used the appropriate stamp for each manufacturer's registration form. If the dealer used the wrong dealer identification number on a manufacturer's registration form, it would complicate the manufacturer's data-processing task. After considering these facts, NHTSA has decided not to adopt this comment, and the independent dealers remain subject to the requirement that they record their name and address on the registration form before giving the form to the tire purchaser.

Other Issues

Several commenters objected to the language in the interim final rule stating that enforcement of this regulation would be under the authority of

sections 108-110 of the Safety Act (15 U.S.C. 1397-99) and that each violation could subject the violator to a penalty of \$1,000. These commenters noted that the Committee report on the Authorization Act stated an expectation that independent dealers which failed to comply with the voluntary registration requirements would not have to pay the maximum penalty unless there was a clear, continuous pattern of violations.

The statutory provisions recited in the interim final rule are consistent with the committee report. Section 109 of the Safety Act provides that the amount of any penalty imposed by the agency should reflect consideration of the size of the business which committed the violation and of the gravity of the violation. As a matter of practice, the agency makes a distinction in its enforcement activities between isolated violations and continuous patterns of violations. The agency will continue to make this distinction and thus will be following the guidance in the committee report.

Some commenters urged that the agency permit continued use of registration forms addressed to clearinghouses. These forms, which were permitted under mandatory registration, were generic instead of manufacturer-specific (i.e., they did not bear any mark or information identifying them for use in registering a particular manufacturer's tires) and thus could be used to register any manufacturer's tires. The tire dealer would fill in the manufacturer or brand-name owner identified on the tire to be registered, and send the forms to a clearinghouse. The clearinghouse would then forward the information to the appropriate manufacturer or brand-name owner.

As explained in the preamble to the interim final rule, the amendments to section 158(b) of the Safety Act and their legislative history compel an end to the practice of using forms which are not addressed to a specific manufacturer or its designee. Section 158(b) requires that the purchaser be able to send the form directly to the manufacturer of the tire, and that the forms used by independent dealers be standardized for all tires. Hence, the agency cannot permit continued use of forms which are not manufacturer-specific and which are not addressed to a particular manufacturer or its designee.

One commenter asked that dealers be allowed to continue to use the forms mandated by the interim final rule until the supply was exhausted. The interim final rule permitted the continued

use of the forms used under mandatory registration as long as the manufacturers provided pre-addressed envelopes in which to enclose those forms. To minimize the expenses and disruption associated with the transition from the interim final rule to this final rule, independent dealers will be permitted to continue using the forms specified by the interim final rule until their existing supplies are exhausted, or until April 1, 1984, whichever comes first. As of the effective date of this rule, the manufacturers will be required to provide registration forms in compliance with this rule, and distribution of the forms specified under the interim final rule must be ended.

A related issue was raised in a petition which Cooper Tire & Rubber Company ("Cooper") submitted for reconsideration of the interim final rule. Cooper currently has a no-charge warranty program for two tire lines. As part of that program, Cooper has printed a booklet and registration form. The form, which was developed and printed before the interim final rule was issued, contains a different motivational statement than was mandated by the interim final rule. Further, it does not contain a notation to affix first-class postage on the reverse side. Cooper reported that it had achieved a 66-percent registration rate for the two tire lines, using its own registration forms.

After considering these minor variations, the agency has decided that this Cooper registration form can be considered as complying with the requirements of the interim final rule. It is significant that Cooper prepared and began distributing these forms in December 1982, before the interim final rule had been published. From the interval of January 1, 1983, to June 20, 1983, Cooper achieved a 66-percent registration rate for tires sold by independent dealers, when there were no registration requirements applicable to independent dealers. This suggests that the Cooper form has been effective at motivating consumers to return that form, and achieving higher tire registration rates is the goal of the change in tire registration procedures.

NHTSA wishes to emphasize that Cooper was in a unique position, and that permitting the variations in the Cooper form from that mandated by the interim final rule does not mean that the agency will countenance variations from the form prescribed by this final rule. This form has been

developed after considering the AIRBS study, and it is important that it be used in connection with tire registration, to insure that the NHTSA evaluation of the voluntary tire registration system is conducted with an effective standardized registration form.

One commenter suggested that there would be a stronger incentive for consumers to register their tires if the agency were to require the manufacturers to prepay the postage for the registration forms. Adopting such a requirement was one of the actions which the House committee report indicated could be adopted after the 2-year evaluation period if the agency determined that further steps were necessary to achieve adequate registration rates. The implication of this discussion in the report is that the requirement may not be adopted at an earlier time. Accordingly, the agency is not adopting a requirement for prepaid postage.

Several commenters stated that the 30-day period between the publication of the interim final rule and its effective date was inadequate to allow the necessary registration forms to be printed and distributed to all of the manufacturer's independent dealers. Accordingly, they asked that a longer leadtime period be established for this final rule. The agency understands that it is asking the manufacturers to move very expeditiously to print and distribute the voluntary registration forms. NHTSA believes that short leadtime periods are necessary due to the importance of registration and to the requirement to conduct an evaluation of voluntary registration 2 years after passage of the Authorization Act. At the same time, the agency wishes to make some accommodation of the request for additional leadtime. Accordingly, the agency is specifying an effective date of 45 days after publication of this notice. This date will still require expeditious action by the manufacturers, but does provide 2 more weeks than were allowed for the interim final rule.

The information-collection requirements contained in this rule have been submitted to and approved by the Office of Management and Budget (OMB), pursuant to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). Those requirements have been approved through May 31, 1985 (OMB #2127-0050). All printed registration forms must display this OMB clearance number and expiration date in the up-

per right-hand corner of the form.

NHTSA has analyzed the impacts of this rule and determined that it is neither “major” within the meaning of Executive Order 12291 nor “significant” within the meaning of the Department of Transportation regulatory policies and procedures. The changes in the requirements for the registration forms to be provided by tire manufacturers to independent dealers will impose minimally higher costs on those manufacturers. Compared to the costs and administrative burdens imposed on independent dealers under mandatory registration, those dealers should achieve a slight savings under this rule. Consumers purchasing tires from independent dealers will now have to pay for postage if they wish to register their new tires. The assumption of that cost by consumers was mandated by Congress. For this reason, a full regulatory evaluation has not been prepared.

The agency has also considered the impacts of this rule on small entities, as required by the Regulatory Flexibility Act. NHTSA believes that few, if any, of the tire manufacturers are small businesses. Although many of the dealers could be considered small businesses, this rule will not have a significant impact on them. As noted above, they may experience a slight savings as compared to the mandatory registration requirements. The requirements for tire manufacturers are unchanged, except for some minor changes which they must make to the registration forms to be provided to independent dealers. Small organizations and governmental units will have to bear the minor expense of paying postage for any new tires they register. Based on the foregoing, I certify that this rule will not have a significant economic impact on a substantial number of small entities.

In consideration of the foregoing, the following amendments are made to Part 574, Tire Identification and Recordkeeping, of Title 49 of the Code of Federal Regulations.

1. Section 574.3 is amended by adding a new paragraph (c)(1) immediately after “*Definitions used in this part.*” and redesignating existing paragraphs (c)(1) through (c)(4) as paragraphs (c)(2) through (c)(5):

§ 574.3 Definitions.

* * * * *

(c) * * *

(1) “Independent” means, with respect to a tire distributor or dealer, one whose business is not owned or controlled by a tire manufacturer or brand name owner.

* * * * *

3. Section 574.7 is revised to read as follows:

§ 574.7 Information requirements—new tire manufacturers, new tire brand name owners.

(a)(1) Each new tire manufacturer and each new tire brand name owner (hereinafter referred to in this section and § 574.8 as “tire manufacturer”) or its designee, shall provide tire registration forms to every distributor and dealer of its tires which offers new tires for sale or lease to tire purchasers.

(2) Each tire registration form provided to independent distributors and dealers pursuant to paragraph (a)(1) of this section shall contain space for recording the information specified in paragraphs (a)(4)(A) through (a)(4)(C) of this section and shall conform in content and format to Figures 3a and 3b. Each form shall be:

(A) Rectangular;

(B) Not less than .007 inches thick;

(C) Greater than 3½ inches, but not greater than 6⅞ inches wide; and

(D) Greater than 5 inches, but not greater than 6 inches long.

(3) Each tire registration form provided to distributors and dealers, other than independent distributors and dealers, pursuant to paragraph (a)(1) of this section shall be similar in format and size to Figure 4 and shall contain space for recording the information specified in paragraphs (a)(4)(A) through (a)(4)(C) of this section.

(4)(A) Name and address of the tire purchaser.

(d) The information that is specified in paragraph (a)(4) of this section and recorded on registration forms submitted to a tire manufacturer or its designee shall be maintained for a period of not less than three years from the date on which the information is recorded by the manufacturer or its designee.

4. Section 574.8 is revised to read as follows:

§ 574.8 Information requirements—tire distributors and dealers.

(b) *Other distributors and dealers.* (1) Each distributor and each dealer, other than an independent distributor or dealer, selling new tires to tire purchasers shall submit the information

specified in § 574.7(a)(4) to the manufacturer of the tires sold, or to its designee.

(2) Each tire distributor and each dealer, other than an independent distributor or dealer, shall submit registration forms containing the information specified in § 574.7(a)(4) to the tire manufacturer, or person maintaining the information, not less often than every 30 days. However, a distributor or dealer which sells less than 40 tires, of all makes, types and sizes during a 30-day period may wait until he or she sells a total of 40 new tires, but in no event longer than six months, before forwarding the tire information to the respective tire manufacturers or their designees.

(c) Each distributor and each dealer selling

new tires to other tire distributors or dealers shall supply to the distributor or dealer a means to record the information specified in § 574.7(a)(4), unless such a means has been provided to that distributor or dealer by another person or by a manufacturer.

Issued on February 3, 1984.

Diane K. Steed
Administrator

49 FR 4755
February 8, 1984

PREAMBLE TO AN AMENDMENT TO PART 574

Tire Identification and Recordkeeping

[Docket No. 84-07; Notice 2]

ACTION: Final rule.

SUMMARY: This rule amends Part 574 to give retreaders of tires for motor vehicles other than passenger cars an option during the retreading process of either removing the original manufacturer's DOT symbol from the sidewall of the finished retread or leaving that symbol on the tire. This action is taken because NHTSA has determined that no significant safety interest is served by requiring that retreaders remove the original manufacturer's DOT symbol as part of the retreading process. That requirement, which did not expressly appear in Part 574, resulted from unforeseen events and from unexpected effects of the language in Part 574. This rule avoids imposing unnecessary costs on these retreaders without degrading the safety of the tires or the safety value of the information available to consumers.

EFFECTIVE DATE: February 15, 1985.

SUPPLEMENTARY INFORMATION: The Federal Motor Vehicle Safety Standards require that a DOT symbol appear on the sidewall of most new and retreaded tires as a means of certifying compliance with the performance requirements of the applicable safety standard. Thus, the DOT symbol must appear on new tires for use on passenger cars which are subject to Standard No. 109, new tires for use on vehicles other than passenger cars which are subject to Standard No. 119, and retreaded passenger-car tires which are subject to Standard No. 117. (For the sake of easy reference, tires for use on motor vehicles other than passenger cars will be referred to as "non-car tires"

throughout the rest of this preamble.)

Regulations issued under the National Traffic and Motor Vehicle Safety Act expressly prohibit the presence of the DOT symbol on tires not subject to a Federal safety standard. 49 CFR Part 574, *Tire Identification and Recordkeeping*, provides, in pertinent part: "The DOT symbol shall not appear on tires to which no Federal Motor Vehicle Safety Standard is applicable..." (574.5). Since retreaded non-car tires are the only new or retreaded tires not subject to a Federal safety standard, they are the only tires subject to that prohibition.

NHTSA adopted the language in § 574.5 because of its concern that the appearance of the DOT symbol on tires to which no safety standard was applicable would confuse consumers. That is, NHTSA believed that consumers could mistakenly conclude that the tires in question met some applicable Federal requirements, when, in fact, there were no such requirements.

However, although the agency's concern in adopting the prohibition in § 574.5 was with the addition of a DOT symbol to a tire that was not subject to any Federal safety standard, the language of the prohibition was broader. It did not simply state that manufacturers cannot add the DOT symbol to tires to which no Federal safety standard is applicable. It stated that the DOT symbol "shall not appear" on such tires. The breadth of that language gave rise to a duty not only to refrain from adding a DOT symbol to tires to which no safety standard was applicable, but also to remove an original manufacturer's symbol when, as in the case of retreaded non-car tires, the tires were subject to a safety standard when new but are not subject to any standard when retreaded.

In no other circumstances under the Safety Act, such as in the remanufacturing of a vehicle, is a person required to remove a previous manufacturer's certification. Additionally, the agency learned that most non-car tire retreaders had not been removing the original manufacturer's DOT symbol.

NHTSA tentatively concluded that there was no safety or informational value associated with the requirement that non-car tire retreaders remove the original manufacturer's DOT symbol. Accordingly, the agency published a notice of proposed rulemaking on this subject at 49 FR 20880, May 17, 1984. That notice explained in detail the origins of the prohibition in § 574.5, and the bases for the agency's tentative conclusions that no safety or informational purposes were served by the requirement that retreaders of non-car tires remove the original manufacturer's DOT symbol from the sidewall of the tire. Further, the notice noted that although NHTSA had received over 10,000 consumer complaints regarding non-car tires since 1976, not one of those complaints related to the presence or absence of the DOT symbol on a retreaded non-car tire. The hypothetical consumer confusion which NHTSA thought might occur has in fact *not* occurred with respect to retreaded non-car tires. Accordingly, NHTSA proposed that the prohibition in § 574.5 be replaced by language which would give non-car tire retreaders the option of removing the original manufacturer's DOT symbol or leaving it on the finished retread, while emphasizing the those retreaders were still prohibited from adding a new DOT symbol to the sidewall of retreaded non-car tires.

Three commenters responded to the notice of proposed rulemaking. All three supported the agency's proposal to eliminate the requirement that non-car tire retreaders remove the original manufacturer's DOT symbol. One of the commenters suggested that the agency move beyond its proposed option for these retreaders to remove or not remove the original manufacturer's DOT symbol, and instead require that any non-car tires with a DOT symbol on the sidewall retain that DOT symbol after the retreading is completed.

The agency has not been persuaded by this comment, for the reasons expressed in the proposal. To repeat, the value of the DOT symbol on a worn tire carcass in assessing the probable performance capabilities of a retreaded tire is not very significant. Intervening factors, such as latent problems

with the carcass, inadvertent damage to the carcass during the retreading process, the amount of old tread not buffed off during the retreading, and the application and design of the new tread are of far greater significance in determining the performance of the retread than is the condition of the carcass when the tire was new. Those retreaders which choose to retain the original manufacturer's DOT symbol on the sidewall are free to do so, and those retreaders which choose to remove the original manufacturer's DOT symbol are also free to do so, since NHTSA has concluded that the symbol has so little significance for purchasers of retreaded non-car tires. Hence, the proposed change to the language in § 574.5 is hereby adopted, for the reasons set forth in the proposal.

NHTSA has analyzed this rule and determined that it is neither "major" within the meaning of Executive Order 12291 nor "significant" within the meaning of the Department of Transportation regulatory policies and procedures. The impact of this rule is simply to authorize a practice which has been followed by most non-car tire retreaders for the last 7 years (i.e., not removing the original manufacturer's DOT symbol). No additional paperwork or costs will be imposed as a result of this rule. No cost savings are expected, either, since this rule merely authorizes existing practices. Since the impacts associated with the rule are so minimal, a full regulatory evaluation has not been prepared.

NHTSA has also analyzed this rule in accordance with the Regulatory Flexibility Act. Based on that analysis, I certify that this amendment will not have a significant economic impact on a substantial number of small entities. This rule does not impose any additional burden on tire retreaders, because it merely authorizes a practice most of them have followed, i.e., leaving the original manufacturer's DOT symbol on the sidewall of the finished retread. Those retreaders which have not followed that practice will be able to reduce their costs slightly by leaving that symbol on the sidewall, if they choose. Small organizations and small governmental jurisdictions which purchase retreaded non-car tires will not be affected by this rule. To the extent that this rule might produce some cost savings for the retreaders by allowing them not to buff off the original manufacturer's DOT symbol, those savings are already reflected in the prices charged for most retreaded non-car tires. Hence, no significant

savings are expected for small entities as a result of this rule. A full Regulatory Flexibility Analysis has not been prepared for this rule.

Finally, the agency has considered the environmental implications of this rule in accordance with the National Environmental Policy Act and determined that this rule will have no effect on the human environment.

LIST OF SUBJECTS IN 49 CFR PART 574: Labeling, motor-vehicle safety, motor vehicles, reporting and recordkeeping requirements, rubber and rubber products, tires.

In consideration of the foregoing, 49 CFR § 574.5 is amended by revising the introductory text to read as follows:

574.5 *Tire identification requirements.*

Each tire manufacturer shall conspicuously label on one sidewall of each tire it manufactures, except tires manufactured exclusively for mileage-contract purchasers, by permanently molding into or onto the sidewall, in the manner and location specified in Figure 1, a tire identification number containing the information set forth in paragraphs (a) through (d) of this section. Each tire retreader, except tire retreaders who retread tires solely for their own use, shall conspicuously label one sidewall of each tire it retreads by permanently molding or branding into or onto the sidewall, in the manner and location specified in Figure 2, a tire identification number containing the informa-

tion set forth in paragraphs (a) through (d) of this section. In addition, the DOT symbol required by Federal Motor Vehicle Safety Standards shall be located as shown in Figures 1 and 2. The DOT symbol shall not appear on tires to which no Federal Motor Vehicle Safety Standard is applicable, except that the DOT symbol on tires for use on motor vehicles other than passenger cars may, prior to retreading, be removed from the sidewall or allowed to remain on the sidewall, at the retreader's option. The symbols to be used in the tire identification number for tire manufacturers and retreaders are; "A, B, C, D, E, F, H, J, K, L, M, N, P, R, T, U, V, W, X, Y, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0." Tires manufactured or retreaded exclusively for mileage-contract purchasers are not required to contain a tire identification number if the tire contains the phrase "for mileage contract use only" permanently molded into or onto the tire sidewall in lettering at least ¼ inch high.

* * * * *

Issued on January 10, 1985.

Diane K. Steed
Administrator
50 FR 2287
January 16, 1985

PREAMBLE TO AN AMENDMENT TO PART 574

Tire Code Marks Assigned to New Tire Manufacturers

ACTION: Publication of tire code marks assigned to new tire manufacturers.

SUMMARY: The agency first published a complete listing of the tire code marks assigned to new tire manufacturers in 1972. The second publication of this listing in June 1983 added an additional 150 code marks. Since that last publication, there have been several additions and changes in names and addresses for the assigned code marks. This publication will inform the public of those additions and changes as reported to the agency.

SUPPLEMENTARY INFORMATION: Section 574.5 of Title 49, Code of Federal Regulations, requires tire manufacturers to mold a tire identification number into or onto the sidewall of each tire they manufacture. In the case of new tires, the first two digits of the tire identification number are the code mark assigned to the manufacturer. This code mark identifies the tire manufacturer and the plant where the tire was manufactured.

The NHTSA first published a complete listing of the tire codes at 37 FR 342, January 11, 1972. This list enables interested members of the public to identify the manufacturer and place of manufacture of any new tire. The NHTSA published an updating of the tire codes at 48 FR 27635, June 16, 1983, adding some 150 additional code marks assigned to new tire manufacturers since the 1972 publication.

This update listing of the assigned code marks for new tire manufacturers is being published to bring the public up to date with the revisions and new code numbers which have been assigned since the publication of the 1983 list.

Issued on March 11, 1985.

Barry Felrice
Associate Administrator
for Rulemaking

**50 FR 10880
March 18, 1985**

ADDITIONAL TIRE CODES ASSIGNED
New Tire Manufacturers

M8 Premier Tyres Limited, Kalamassery, Kerala State, India

Y8 Bombay Tyres International Limited, Hay Bunder Road, Bombay, Maharashtra, India 400 033

C9 Seven Star Rubber Company, Ltd., 2-1 Chang-Swei Road, Pin-Tou Hsiang, Chang-Hua, Taiwan, R.O.C.

F9 Dunlop New Zealand, Limited, P.O. Box 40343, Upper Hutt, New Zealand

H9 Reifen-Berg, 5000 Koln 80 (Mulheim), Clevischer Ring 134, West Germany

J9 P.T. Intirub, 454 Cililitan, P.O. Box 2626, Besar, Jakarta, Indonesia

K9 Natier Tire & Rubber Co., Ltd., 557, Shan Chiao Road, Sec. 1, Shetou, Changhua, Taiwan, R.O.C. 511

M9 Uniroyal Tire Corporation, Uniroyal Research Center, Middlebury, CT 06749

N9 Cia Pneus Tropical, Km105/BR, 324, Centro Industrial Desubae 44100, Feira de Santana, Bahia, Brazil

P9 MRF, Ltd., P.B. No. 1 Ponda, Goa 403 401, India

T9 MRF, Ltd., Thiruthani Road, Ichiputhur 631 060, Arkonam, India

U9 Cooper Tire & Rubber Company, 1689 South Green Street, Tupelo, MS 38801

V9 M & R Tire Co., 309 Main Street, Watertown, MA 02172

Reported Name Change
New Tire Manufacturers

<i>Code</i>	<i>Old Name</i>	<i>New Name</i>
AA	General Tire & Rubber Co. One General Street Akron, Ohio 44329	GenCorp Inc. One General Street Akron, OH 44329
BB	B.F. Goodrich Tire Company 5400 E. Olympic Blvd. Los Angeles, CA 90022	B.F. Goodrich Tire Company Department 6517 P.O. Box 31 Miami, OK 74354
LK	Uniroyal Croyden, S.A. Carrera 7A, No. 22-1 Cali, Colombia	Productora Nacional de Llantas, S.A. Carrera 7A, No. 22-1 Cali, Colombia
WT	Madras Rubber Factory, Ltd. 175/1 Mount Road Madras, India	Madras Rubber Factory, Ltd. Tiruvottiyur High Road Madras 600 019 India
H2	Sam Yang Tire Mfg. Co., Ltd. Song Jung Eup Junnam, Korea	Kumho & Co., Inc. 555 Sochon-Ri Songjung-Eup Kwangsang-Kun Chonnam, Korea

MISCELLANEOUS NEW TIRE MANUFACTURERS TRANSACTIONS
As Reported to NHTSA

<i>Manufacturer</i>	<i>Code</i>	<i>Remark</i>
Armstrong Rubber Company	CE	Plant closed 4/3/81
Bridgestone Tire Company	LH	Purchased from UNIROYAL as of 6/13/82
Ceat, S.p.A.	HU	Sold to Pirelli Tire Corp. in May 1984
Cooper Tire & Rubber Company	U9	Purchased from Pennsylvania Tire & Rubber on 1/25/84
Dayton Tire & Rubber Company	DC	Purchased from Dunlop on 11/1/75
Dunlop Olympic Tyres	DT,DU,WM,W4	Merger of Dunlop and Olympic on 4/29/81
Dunlop Tire & Rubber Corp.	DF, DH, DJ, DP, WN	Plants closed
ditto	DT, DU, WM W4	Plants sold to Dunlop Olympic on 4/29/81
ditto	DC	Plant sold to Firestone T&R on 11/1/75
Firestone Tire & Rubber	DC	Purchased from Dunlop T&R on 11/1/75
ditto	VV	Plant sold to Viskafors Gummifabrik in April 1980
General Tire & Rubber Company	LV	Purchased from Mansfield-Denman on 11/30/78
B.F. Goodrich Company	BJ	Plant sold 12/79
ditto	BK	Plant sold 1/80
ditto	BM	Plant sold to Olympic in 7/75
ditto	BN	Plant sold 8/81
ditto	BP	Plant sold 5/78
Nitto Tire Company, Ltd.	N3	Plant sold to Ryoto Tire Co., Ltd., on 1/23/80
Olympic Tire & Rubber Co., Pty., Ltd.	WM, W4	Sold to Dunlop Olympic on 4/29/81
ditto	WN	Plant closed in 1978

MISCELLANEOUS NEW TIRE MANUFACTURERS TRANSACTIONS**As Reported to NHTSA****(Continued)**

<i>Manufacturer</i>	<i>Code</i>	<i>Remark</i>
Pennsylvania Tire & Rubber of Mississippi	WK	Plant sold to Cooper T&R on 1/24/84
Pirelli Tire Corporation	HU	Plant purchased from Ceat, S.p.A. in May 1984
Ryoto Tire Company	N3	Plant purchased from Nitto Tire Company on 1/23/80
SAMYAND Tire, Inc.	XU	Plant closed in 1976
UNIROYAL, Inc.	LH	Plant sold to Bridgestone Tire Company on 6/13/82
Viskafors Gummifabrik AB	VV	Plant purchased from Firestone T&R in April 1980

PART 574—TIRE IDENTIFICATION AND RECORDKEEPING

(Docket No. 70-12; Notice No. 5)

Sec.

- 574.1 Scope.**
- 574.2 Purpose.**
- 574.3 Definitions.**
- 574.4 Applicability.**
- 574.5 Tire identification requirements.**
- 574.6 Identification mark.**
- 574.7 Information requirements—tire manufacturers, brand name owners, retreaders.**
- 574.8 Information requirements—tire distributors and dealers.**
- 574.9 Requirements for motor vehicle dealers.**
- 574.10 Requirements for motor vehicle manufacturers.**

§ 574.1 Scope.

This part sets forth the method by which new tire manufacturers and new tire brand name owners shall identify tires for use on motor vehicles and maintain records of tire purchasers, and the method by which retreaders and retreaded tire brand name owners shall identify tires for use on motor vehicles. This part also sets forth the methods by which independent tire dealers and distributors shall record, on registration forms, their names and addresses and the identification number of the tires sold to tire purchasers and provide the forms to the purchasers, so that the purchasers may report their names to the new tire manufacturers and new tire brand name owners, and by which other tire dealers and distributors shall record and report the names of tire purchasers to the new tire manufacturers and new tire brand name owners.

§ 574.2 Purpose.

The purpose of this part is to facilitate notification to purchasers of defective or nonconforming tires, pursuant to sections 151 and 152 of the National Traffic and Motor Vehicle Safety Act of 1966, as amended (15 U.S.C. 1411 and 1412)

(hereafter the Act), so that they may take appropriate action in the interest of motor vehicle safety.

§ 574.3 Definitions.

(a) *Statutory definitions.* All terms in this part that are defined in section 102 of the Act are used as defined therein.

(b) *Motor vehicle safety standard definitions.* Unless otherwise indicated, all terms used in this part that are defined in the Motor Vehicle Safety Standards, part 571 of this subchapter (hereinafter the Standards), are used as defined therein.

(c) *Definitions used in this part.* (1) “Mileage contract purchaser” means a person who purchases or leases tire use on a mileage basis.

[(2)] “Independent” means, with respect to a tire distributor or dealer, one whose business is not owned or controlled by a tire manufacturer or brand name owner.

[(3)] “New tire brand name owner” means a person, other than a new tire manufacturer, who owns or has the right to control the brand name of a new tire or a person who licenses another to purchase new tires from a new tire manufacturer bearing the licensor’s brand name.

[(4)] “Retreaded tire brand name owner” means a person, other than a retreader, who owns or has the right to control the brand name of a retreaded tire or a person who licenses another to purchase retreaded tires from a retreader bearing the licensor’s brand name.

[(5)] “Tire purchaser” means a person who buys or leases a new tire, or who buys or leases for 60 days or more a motor vehicle containing a new tire for purposes other than resale.

§ 574.4 Applicability.

This part applies to manufacturers, brand name owners, retreaders, distributors, and deal-

ers of new and retreaded tires for use on motor vehicles manufactured after 1948 and to manufacturers and dealers of motor vehicles manufactured after 1948. However, it does not apply to persons who retread tires solely for their own use.

§ 574.5 Tire identification requirements.

Each tire manufacturer shall conspicuously label on one sidewall of each tire it manufactures, except tires manufactured exclusively for mileage-contract purchasers, by permanently molding into or onto the sidewall, in the manner and location specified in Figure 1, a tire identification number containing the information set forth in paragraphs (a) through (d) of this section. Each tire retreader, except tire retreaders who retread tires solely for their own use, shall conspicuously label one sidewall of each tire it retreads by permanently molding or branding into or onto the sidewall, in the manner and location specified in Figure 2, a tire identification number containing the information set forth in paragraphs (a) through (d) of this section. In addition, the DOT symbol required by Federal Motor Vehicle Safety Standards shall be located as shown in Figures 1 and 2. The DOT symbol shall not appear on tires to which no Federal Motor Vehicle Safety Standard is applicable, except that the DOT symbol on tires for use on motor vehicles other than passenger cars may, prior to retreading, be removed from the sidewall or allowed to remain on the sidewall, at the retreader's option. The symbols to be used in the tire identification number for tire manufacturers and retreaders, are: "A, B, C, D, E, F, H, J, K, L, M, N, P, R, T, U, V, W, X, Y, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0." Tires manufactured or retreaded exclusively for mileage-contract purchasers are not required to contain a tire identification number if the tire contains the phrase "for mileage contract use only" permanently molded into or onto the tire sidewall in lettering at least one-quarter inch high. (50 F.R. 2288—January 16, 1985. Effective: February 15, 1985)]

(a) First grouping. The first group, of two or three symbols, depending on whether the tire is new or retreaded, shall represent the manufacturer's assigned identification mark (see § 574.6).

(b) Second grouping. For new tires, the second group, of no more than two symbols, shall be used to identify the tire size. For retreaded tires, the second group, of no more than two symbols, shall identify the retread matrix in which the tire was processed or a tire size code if a matrix was not used to process the retreaded tire. Each new tire manufacturer and retreader shall maintain a record of each symbol used, with the corresponding matrix or tire size and shall provide such record to NHTSA upon written request.

(c) Third grouping. The third group, consisting of no more than four symbols, may be used at the option of the manufacturer or retreader as a descriptive code for the purpose of identifying significant characteristics of the tire. However, if the tire is manufactured for a brand name owner, one of the functions of the third grouping shall be to identify the brand name owner. Each manufacturer or retreader who uses the third grouping shall maintain a detailed record of any descriptive or brand name owner code used, which shall be provided to the Bureau upon written request.

(d) Fourth grouping. The fourth group, of three symbols, shall identify the week and year of manufacture. The first two symbols shall identify the week of the year using "01" for the first full calendar week in each year. The final week of each year may include not more than 6 days of the following year. The third symbol shall identify the year. (Example: 311 means the 31st week of 1971, or Aug. 1 through 7, 1971; 012 means the first week of 1972, or Jan. 2 through 8, 1972.) The symbols signifying the date of manufacture shall immediately follow the optional descriptive code (paragraph (c) of this section). If no optional descriptive code is used the symbols signifying the date of manufacture shall be placed in the area shown in Figures 1 and 2 for the optional descriptive code.

§ 574.6 Identification mark.

To obtain the identification mark required by § 574.5(a), each manufacturer of new or retreaded motor vehicle tires shall apply after November 30, 1970, in writing to Tire Identification and Record-keeping, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, D.C. 20590, identify himself as a manufacturer of new tires or retreaded tires, and furnish the following information:

(a) The name, or other designation identifying the applicant, and his main office address.

(b) The name, or other identifying designation, of each individual plant operated by the manufacturer and the address of each plant, if applicable.

(c) The type of tires manufactured at each plant, e.g., passenger car tires, bus tires, truck tires, motorcycle tires, or retreaded tires.

3. Section 574.7 is revised to read as follows:

§ 574.7 Information requirements—new tire manufacturers, new tire brand name owners.

(a)(1) Each new tire manufacturer and each new tire brand name owner (hereinafter referred to in this section and § 574.8 as “tire manufacturer”) or its designee, shall provide tire registration forms to every distributor and dealer of its tires which offers new tires for sale or lease to tire purchasers.

(2) Each tire registration form provided to independent distributors and dealers pursuant to paragraph (a) (1) of this section shall contain space for recording the information specified in paragraphs (a) [(4)] (A) through (a) [(4)] (C) of this section and shall conform in content and format to Figures 3a and 3b. Each form shall be:

[(a)] Rectangular;

(b) Not less than .007 inches thick;

(c) Greater than 3½ inches, but not greater than 6⅛ inches wide; and

(d) Greater than 5 inches, but not greater than [(6)] inches long.

[(3)] Each tire registration form provided to distributors and dealers, other than independent distributors and dealers, pursuant to paragraph (a) (1) of this section shall be similar in format and size to Figure 4 and shall contain space for

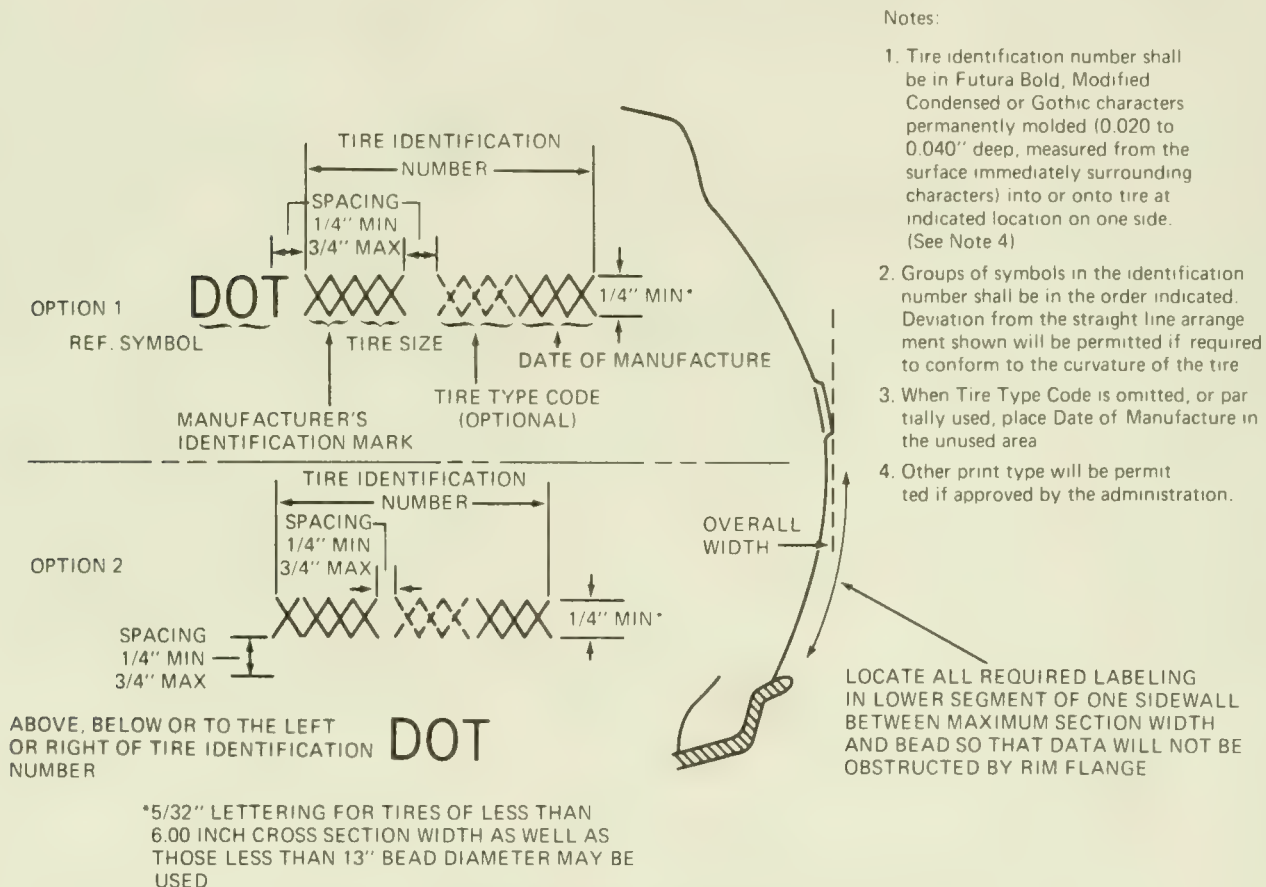
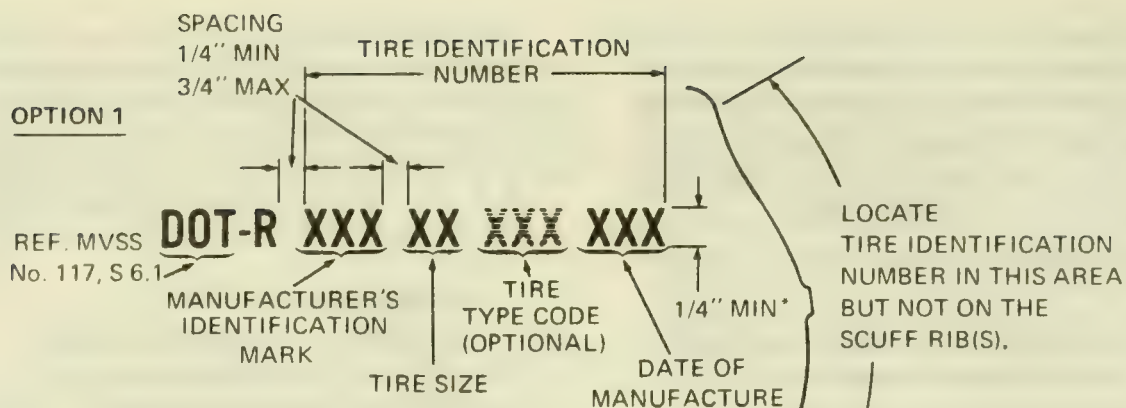
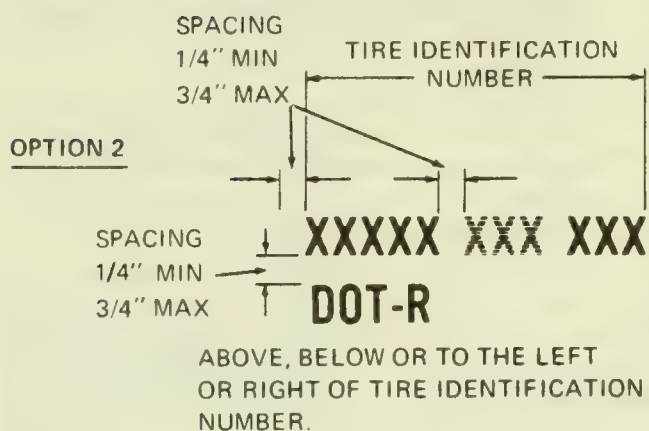


FIGURE 1—IDENTIFICATION NUMBER FOR NEW TIRES



*USE 5/32" LETTERING FOR TIRES OF LESS THAN 6.00 INCH CROSS SECTION WIDTH AS WELL AS THOSE LESS THAN 13" BEAD DIAMETER.



NOTES:

1. Tire identification number shall be in "Futura Bold, Modified, Condensed or Gothic" characters permanently molded (0.020 to 0.040" deep, measured from the surface immediately surrounding characters) into or onto tire at indicated location on one side. (See Note 4)
2. Groups of symbols in the identification number shall be in the order indicated. Deviation from the straight line arrangement shown will be permitted if required to conform to the curvature of the tire.
3. When Tire Type Code is omitted, or partially used, place Date of Manufacture in the unused area.
4. Other print type will be permitted if approved by the Administration.

FIGURE 2—IDENTIFICATION NUMBER FOR RETREADED TIRES

IMPORTANT

A

In case of a recall, we can reach you only if we have your name and address. You **MUST** send in this card to be on our recall list.

**SHADED AREAS MUST
BE FILLED IN BY SELLER**

Do it today.

			TIRE IDENTIFICATION NUMBERS											
			QTY	1	2	3	4	5	6	7	8	9	10	11
CUSTOMER'S NAME (Please Print)														
CUSTOMER'S ADDRESS														
CITY	STATE	ZIP CODE												
NAME OF DEALER WHICH SOLD TIRE														
DEALER'S ADDRESS														
CITY	STATE	ZIP CODE												

10% Screen Tint

A Preprinted tire manufacturer's name—unless the manufacturer's name appears on reverse side of the form.

**Fig. 3a—Registration form for independent distributors and dealers—
tire identification number side**

Affix a
postcard
stamp

Name and address of
tire manufacturer or
its designee

(Preprinted)

**Fig. 3b—Registration form for independent distributors and dealers—
address side**

$7\frac{3}{8}'' \pm 1/8''$

**IMPORTANT FEDERAL LAW REQUIRES
TIRE IDENTIFICATION NUMBERS MUST
BE REGISTERED**
(PLEASE PRINT)

CUSTOMER'S NAME

ADDRESS

CITY STATE ZIP

DATE FLEET VEHICLE No (OPTIONAL)

SELLERS NAME AND/OR MANUFACTURER SELLER NUMBER

ADDRESS

CITY STATE ZIP

(A)
(B)

RETURN TO

QTY	TIRE IDENTIFICATION NUMBERS										
	1	2	3	4	5	6	7	8	9	10	11

(A) PREPRINTED TIRE MANUFACTURERS' LOGO OR OTHER IDENTIFICATION AND MAILING ADDRESS

(B) MICROFILM NUMBER LOCATION IF NECESSARY

A-B AREAS TO SUIT TIRE MANUFACTURERS REQUIREMENTS

(Rev. 3/25/84)

chasers or lessors (hereinafter referred to in this section as "tire purchasers") shall provide each tire purchaser at the time of sale or lease of the tire(s) with a tire registration form.

(2) The distributor or dealer may use either the registration forms provided by the tire manufacturers pursuant to § 574.7(a) or registration forms obtained from another source. Forms obtained from other sources shall comply with the requirements specified in § 574.7(a) for forms provided by tire manufacturers to independent distributors and dealers.

(3) Before giving the registration form to the tire purchaser, the distributor or dealer shall record in the appropriate spaces provided on that form:

(A) The entire tire identification number of the tire(s) sold or leased to the tire purchaser; and

(B) The distributor's or dealer's name and address or other means of identification known to the tire manufacturer.

(4) Multiple tire purchases or leases by the same tire purchaser may be recorded on a single registration form.

(b) *Other distributors and dealers.* (1) Each distributor and each dealer, other than an independent distributor or dealer, selling new tires to tire purchasers shall submit the information specified in § 574.7(a) [(4)] to the manufacturer of the tires sold, or to its designee.

(2) Each tire distributor and each dealer, other than an independent distributor or dealer, shall submit registration forms containing the information specified in § 574.7(a) [(4)] to the tire manufacturer, or person maintaining the information, not less often than every 30 days. However, a distributor or dealer which sells less than 40 tires, of all makes, types and sizes during a 30-day period may wait until he or she sells a total of 40 new tires, but in no event longer than six months, before forwarding the tire information to the respective tire manufacturers or their designees.

(c) Each distributor and each dealer selling new tires to other tire distributors or dealers shall supply to the distributor or dealer a means to record the information specified in § 574.7(a) [(4)], unless such a means has been provided to that distributor or dealer by another person or by a manufacturer.

(d) Each distributor and each dealer shall immediately stop selling any group of tires when so

directed by a notification issued pursuant to sections 151 and 152 of the Act (15 U.S.C. 1411 and 1412).

§ 574.9 Requirements for motor vehicle dealers.

(a) Each motor vehicle dealer who sells a used motor vehicle for purposes other than resale, or who leases a motor vehicle for more than 60 days, that is equipped with new tires or newly retreaded tires is considered, for purposes of this part, to be a tire dealer and shall meet the requirements specified in § 574.8.

(b) Each person selling a new motor vehicle to first purchasers for purposes other than resale, that is equipped with tires that were not on the motor vehicle when shipped by the vehicle manufacturer is considered a tire dealer for purposes of this part and shall meet the requirements specified in § 574.8.

§ 574.10 Requirements for motor vehicle manufacturers.

Each motor vehicle manufacturer, or his designee, shall maintain a record of tires on or in each vehicle shipped by him to a motor vehicle distributor or dealer, and shall maintain a record of the name and address of the first purchaser for purposes other than resale of each vehicle equipped with such tires. These records shall be maintained for a period of not less than three years from the date of sale of the vehicle to the first purchaser for purposes other than resale.

Interpretation

Under section 113(f) of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1402(f)) and Part 574, it is the tire manufacturer who has the ultimate responsibility for maintaining the records of first purchasers. Therefore, it is the tire manufacturer or his designee who must maintain these records. The term "designee," as used in the regulation, was not intended to preclude multiple designees; if the tire manufacturer desires, he may designate more than one person to maintain the required information. Furthermore, neither the Act nor the regulation prohibits the distributor or dealer from being the manufacturer's designee, nor do they prohibit a distributor or dealer from selecting someone to be the manufacturer's designee provided the manufacturer approves of the selection.

With respect to the possibility of manufacturers using the maintained information to the detriment of a distributor or dealer, NHTSA will of course investigate claims by distributors or dealers of alleged misconduct and, if the maintained information is being misused, take appropriate action.

36 F.R. 4783
March 12, 1971

36 F.R. 13757
July 24, 1971

36 F.R. 16510
August 21, 1971

PREAMBLE TO TIRE CODE MARKS ASSIGNED TO NEW TIRE MANUFACTURERS

The purpose of this notice is to publish the code numbers assigned to new-tire manufacturers under the Tire Identification and Recordkeeping Regulation, 49 CFR Part 574 (36 F.R. 1196).

The Tire Identification and Recordkeeping Regulation (hereafter Part 574) requires that new tires manufactured after May 22, 1971, be marked with a two-symbol manufacturer's code, and that retreaded tires be marked with a three-symbol manufacturer's code. The manufacturer's code is the first grouping within the tire identification number (after the symbol "DOT" or "R" where required).

Under Part 574 a separate code number is assigned to each manufacturer's plant. Table 1 of the notice lists the code numbers assigned and the manufacturer that received each code number. Table 2 lists the same information by

manufacturer. Codes assigned to retreaders will be available for inspection in the Docket Section, Room 5217, 400 Seventh Street SW., Washington, D.C. 20590.

The codes assigned to new-tire manufacturers replace the three-digit code numbers required on new brand-name passenger car tires manufactured prior to May 22, 1971, under Standard No. 109. (The list of numbers assigned under Standard No. 109 was published in the *Federal Register* of July 2, 1968, 34 F.R. 11158.)

Issued on April 14, 1971.

Rodolfo A. Diaz,
Acting Associate Administrator,
Motor Vehicle Programs.

36 F.R. 7539
April 21, 1971

PREAMBLE TO TIRE SIZE CODES

The purpose of this notice is to publish an updated list of tire size codes assigned by the National Highway Traffic Safety Administration in accordance with the Tire Identification and Record Keeping regulation, 49 CFR Part 574 (36 F.R. 1196).

The Tire Identification and Record Keeping regulation requires that a tire identification number be placed on new and retreaded tires, and that the second grouping of the number be a code that identifies the tire size or, in the case of a retreaded tire, the tire matrix. New tire manufacturers have up to now been required to use a specific tire size code assigned to the tire size by the NHTSA. Because of the number of new tire sizes being introduced into the market, the possible combinations of letters and numbers have been virtually exhausted.

In order to accommodate new tire sizes the regulation is being amended by notice published elsewhere in this issue (37 F.R. 23727), to allow each tire manufacturer to assign a two-symbol

size code of his own choice, rather than having the number assigned by the agency. However, it is urged that manufacturers maintain the assigned tire size code for existing tire sizes, and that they reuse obsolete tire size codes for new sizes wherever possible.

For convenience of reference, an updated list of the tire size codes assigned by the NHTSA is published below for the information and guidance of tire manufacturers.

This notice is issued under the authority of sections 103, 113, 119, 201 and 1402, 1407, 1421 and 1426; and the delegations of authority at 49 CFR 1.51 and 49 CFR 501.8.

Issued on October 26, 1972.

Robert L. Carter
Associate Administrator
Motor Vehicle Programs

38 F.R. 23742
November 8, 1972

**Table 1. List of Alpha-Numeric Code Assignments to New Tire Manufacturers
(Based on the following Alpha-numeric code with letters: ABCDEFHJKLMNPTUVWXY
and Nos. 123456789)**

<i>Code No.</i>	<i>New Tire Manufacturers</i>	<i>Code No.</i>	<i>New Tire Manufacturers</i>
AA	The General Tire Co.	B7	Michelin Tire Corp., 2306 Industrial Road, Dothan, Alabama 36301.
AB	The General Tire Co.	B8	Cia Brasileira de Pneumaticos Michelin Ind., Estrada Da Cachamorra 5000, 23000 Campo Grande, Rio De Janeiro, Brazil.
AC	The General Tire Co.	B9	Michelin Tire Corp., 2520 Two Notch Road, P.O. Box 579, Lexington, S. Carolina 29072.
AD	The General Tire Co.	CA	The Mohawk Rubber Co.
AE	The General Tire Co. (Spain).	CB	The Mohawk Rubber Co.
AF	The General Tire Co. (Portugal).	CC	The Mohawk Rubber Co.
AH	The General Tire Co. (Mexico).	CD	Alliance Tire & Rubber Co., Ltd. (Israel).
AJ	Uniroyal, Inc.	CE	The Armstrong Rubber Co.
AK	Uniroyal, Inc.	CF	The Armstrong Rubber Co.
AL	Uniroyal, Inc.	CH	The Armstrong Rubber Co.
AM	Uniroyal, Inc.	CJ	Inoue Rubber Co., Ltd. (Japan).
AN	Uniroyal, Inc.	CK	Not assigned.
AP	Uniroyal, Inc.	CL	Not assigned.
AT	Avon Rubber Co. (England).	CM	Continental Gummiwerke A.G. (Germany).
AU	Uniroyal, Ltd. (Canada).	CN	Continental Gummiwerke A.G. (France).
AV	The Sieberling Tire & Rubber Co.	CP	Continental Gummiwerke A.G. (Germany).
AW	Samson Tire & Rubber Co., Ltd. (Israel).	CT	Continental Gummiwerke A.G. (Germany).
AX	Phoenix Gummiwerke A.G. (Germany).	CU	Continental Gummiwerke A.G. (Germany).
AY	Phoenix Gummiwerke A.G. (Germany).	CV	The Armstrong Rubber Co.
A1	Manufacture Francaise Pneumatiques Michelin, Poitiers, France.	CW	The Toyo Rubber Industry Co., Ltd. (Japan).
A2	Lee Tire & Rubber Co., Anhanguera Highway, Kilometer 128, Sao Paulo, Brasil.	CX	The Toyo Rubber Industry Co., Ltd. (Japan).
A3	General Tire & Rubber Co., Mount Vernon, Illinois 62864.	CY	McCreary Tire & Rubber Co.
A4	Hung-A Industrial Co., Ltd., 42 JyonPo-Dong Pusanjin-Ku, Pusan, Korea.	C1	Michelin (Nigeria) Ltd., Port Harcourt, Nigeria.
A5	Debickie Zaklady Opon Samochodowych "Stomil," A1.1 Maja 1, 39-200 Debica, Poland.	C2	Kelly Springfield Companhia Goodyear Do Brasil, Km-128 Americana, Sao Paulo, Brazil.
A6	Apollo Tires Ltd., Jos. Anne M.C.Road, Cochin 682016, Kerala, India.	C3	McCreary Tire & Rubber Co., 3901 Clipper Road, Baltimore, Maryland 21211.
A7	Thai Bridgestone Tire Co. Ltd., Tambol Klong-1, Amphur Klong Luang. Changwad Patoom, Thani, Thailand.	C4	Armstrong Rubber Co., Eagle Bend Industrial Park, Clinton, Tennessee.
A8	P.T. Bridgestone Tire Co. Ltd., Desa Harapan Jaya-Bekasi, Km27-Jawa Barat, Indonesia.	C5	Poznanskie Zaklady Opon Samochodowych "STOMIL," ul. Starolecka 18, Poznan, Poland.
A9	General Tire & Rubber Co., 927 S. Union, St., Bryan, Ohio 44350.	C6	Mitas NP Praha 10-Zahradni Mesto, Komarovova 1900, Prague, Czechoslovakia.
BA	The B. F. Goodrich Co.	C7	Ironsides Tire & Rubber Co., 2500 Grassland Drive, Louisville, Ky 40299.
BB	The B. F. Goodrich Co.	C8	Bridgestone Hsin Chu Plant, Chung Yi Rubber In- dustrial Co. Ltd., No. 1 Chuang Ching Road, Taiwan.
BC	The B. F. Goodrich Co.	【C9	Seven Star Rubber Company, Ltd, 2-1 Chang- Swei Road, Pin-Tou Hsiang, Chang-Hua, Taiwan, R.O.C.】
BD	The B. F. Goodrich Co.	DA	The Dunlop Tire & Rubber Corp.
BE	The B. F. Goodrich Co.	DB	The Dunlop Tire & Rubber Corp.
BF	The B. F. Goodrich Co.	DC	The Dunlop Tire & Rubber Corp. (Canada).
BH	The B. F. Goodrich Co. (Canada).	DD	The Dunlop Tire & Rubber Corp. (England).
BJ	The B. F. Goodrich Co. (Germany).	DE	The Dunlop Tire & Rubber Corp. (England).
BK	The B. F. Goodrich Co. (Brazil).	DF	The Dunlop Tire & Rubber Corp. (England).
BL	The B. F. Goodrich Co. (Colombia).	DH	The Dunlop Tire & Rubber Corp. (Scotland).
BM	The B. F. Goodrich Co. (Australia).	DJ	The Dunlop Tire & Rubber Corp. (Ireland).
BN	The B. F. Goodrich Co. (Philippines).	DK	The Dunlop Tire & Rubber Corp. (France).
BP	The B. F. Goodrich Co. (Iran).	DL	The Dunlop Tire & Rubber Corp. (France).
BT	Semperit Gummiwerke A.G. (Austria).	DM	The Dunlop Tire & Rubber Corp. (Germany).
BU	Semperit Gummiwerke A.G. (Ireland).	DN	The Dunlop Tire & Rubber Corp. (Germany).
BV	IRI International Rubber Co.	DP	The Dunlop Tire & Rubber Corp. (England).
BW	The Gates Rubber Co.	DT	The Dunlop Tire & Rubber Corp. (Australia).
BX	The Gates Rubber Co.	DU	The Dunlop Tire & Rubber Corp. (Australia).
BY	The Gates Rubber Co.	DV	Vredestein (The Netherlands).
B1	Manufacture Francaise Pneumatiques Michelin, LaRoche Sur Yon, France.	DW	Vredestein (The Netherlands).
B2	Dunlop Malaysian Industries Berhad, Selangor, Malaysia.	DX	Vredestein Radium (The Netherlands).
B3	Michelin Tire Mfg. Co. of Canada Ltd., Bridge- water, Nova Scotia.	DY	Denman Rubber Manufacturing Co.
B4	Taurus Hungarian Rubber Works, 1965 Budapest, Kerepesi UT17, Hungary.	D1	Viking-Askim-1800 Askim, Norway.
B5	Olsztynskie Zaklady Opon Samochodowych "STOMIL," A1.Zwyciestwa 71, Olsztyn, Poland.	D2	Dayton Tire & Rubber Co., P.O. Box 1000, La Vergne, Tennessee 37086.
B6	Michelin Tire Corp., P.O. Box 5049, Spartanburg, S. Carolina 29304.	D3	United Tire & Rubber Co., Northam Ind. Park Cobourg, Ontario, Canada K9A 4K2.

<i>Code No.</i>	<i>New Tire Manufacturers</i>
D4	Dunlop India Ltd., P.O. Box Sahaganj, Dist. Hooghly, West Bengal, India.
D5	Dunlop India Ltd., Ambattur, Madras-600053, India.
D6	Borovo, Ygoslavenski Kombinat Gume i Obose, Borovo, Yugoslavia.
D7	Dunlop South Africa Ltd., Ladysmith plant 151, Helpmekeer Road, Danskraal Ind. sites, Rep. of S. Africa.
D8	Dunlop South Africa Ltd., Durban Plant 265, Sydney Road, 4001 Durban, Rep. of S. Africa.
D9	United Tire & Rubber Co., Ltd., 275 Belfield Road, Rexdale, Ontario, Canada, M9 W 5C6.
EA	Metzeler A.G. (Germany).
EB	Metzeler A.G. (Germany).
EC	Metzeler A.G. (Germany).
ED	Okamoto Riken Gomu Co., Ltd. (Japan).
EE	Nitto Tire Co., Ltd. (Japan).
EF	Hung Ah Tire Co., Ltd. (Korea).
EH	Bridgestone Tire Co., Ltd. (Japan).
EJ	Bridgestone Tire Co., Ltd. (Japan).
EK	Bridgestone Tire Co., Ltd. (Japan).
EL	Bridgestone Tire Co., Ltd. (Japan).
EM	Bridgestone Tire Co., Ltd. (Japan).
EN	Bridgestone Tire Co., Ltd. (Japan).
EP	Bridgestone Tire Co., Ltd. (Japan).
ET	Sumitomo Rubber Industries, Ltd. (Japan).
EU	Sumitomo Rubber Industries, Ltd. (Japan).
EV	Kleber-Colombes Co. (France).
EW	Kleber-Colombes Co. (France).
EX	Kleber-Colombes Co. (France).
EY	Kleber-Colombes Co. (France).
E1	Chung Hsin Industrial Co. Ltd., Taichong Hsin, Taiwan.
E2	Industria de Pneumatico Firestone SA, Sao Paulo, Brazil.
E3	Seiberling Tire & Rubber Co., P.O. Box 1000, La Vergne, Tennessee 37086.
E4	Firestone of New Zealand, Papanuvi, Christ Church 5, New Zealand.
E5	Firestone South Africa (Pty) Ltd., P.O. Box 992, Port Elizabeth 6000, S. Africa.
E6	Firestone Tunisie SA, Boite Postale 55, Menzel-Bourguiba, Tunisia.
E7	Firestone East Africa Ltd., P.O. Box 30429, Nairobi, Kenya.
E8	Firestone Ghana Ltd., P.O. Box 5758, Accra, Ghana.
E9	Firestone South Africa (Pty), P.O. Box 496, Brits 0250, South Africa.
FA	The Yokohama Rubber Co., Ltd. (Japan).
FB	The Yokohama Rubber Co., Ltd. (Japan).
FC	The Yokohama Rubber Co., Ltd. (Japan).
FD	The Yokohama Rubber Co., Ltd. (Japan).
FE	The Yokohama Rubber Co., Ltd. (Japan).
FF	Michelin Tire Corp. (France).
FH	Michelin Tire Corp. (France).
FJ	Michelin Tire Corp. (France).
FK	Michelin Tire Corp. (France).
FL	Michelin Tire Corp. (France).
FM	Michelin Tire Corp. (France).
FN	Michelin Tire Corp. (France).
FP	Michelin Tire Corp. (Algeria).
FT	Michelin Tire Corp. (Germany).
FU	Michelin Tire Corp. (Germany).
FV	Michelin Tire Corp. (Germany).
FW	Michelin Tire Corp. (Germany).
FX	Michelin Tire Corp. (Belgium).
FY	Michelin Tire Corp. (The Netherlands).
F1	Michelin Tyre Co. Ltd., Baldovie Dundee, Scotland.
F2	CA Firestone Venezolana, Valencia, Venezuela.
F3	Manufacture Francaise Des Pneumatic Michelin, Roanne, France.
F4	Fabrica De Pneus Fapobol, Sarl Rua Azevedo Coutinho 39-1.0, Oporto, Portugal.

<i>Code No.</i>	<i>New Tire Manufacturers</i>
F5	Fate S.A.I.C.I., Avda Alte Blanco Encalada 3003, Buenos Aires, Argentina.
F6	General Fabrica Espanola (Firestone Owned) Torrelavega Plant, Spain.
F7	General Fabrica Espanola (Firestone Owned) Puente San Miguel Plant, Spain.
F8	Vikrant Tyres Ltd., K.R.S. Road, Mysore (Karnataka State) India.
F9	Dunlop New Zealand, Limited, P.O. Box 40343, Upper Hutt, New Zealand
HA	Michelin Tire Corp. (Spain).
HB	Michelin Tire Corp. (Spain).
HC	Michelin Tire Corp. (Spain).
HD	Michelin Tire Corp. (Italy).
HE	Michelin Tire Corp. (Italy).
HF	Michelin Tire Corp. (Italy).
HH	Michelin Tire Corp. (Italy).
HJ	Michelin Tire Corp. (United Kingdom).
HK	Michelin Tire Corp. (United Kingdom).
HL	Michelin Tire Corp. (United Kingdom).
HM	Michelin Tire Corp. (United Kingdom).
HN	Michelin Tire Corp. (Canada).
HP	Michelin Tire Corp. (South Vietnam).
HT	CEAT (Italy).
HU	CEAT (Italy).
HV	CEAT (Italy).
HW	Withdrawn.
HX	The Dayton Tire & Rubber Co.
HY	The Dayton Tire & Rubber Co.
H1	De La SAFE Neumaticos Michelin, Valladolid, Spain.
H2	SamYang Tire Mfg. Co. Ltd., Song Jung Plt., Junnam, Korea.
H3	Sava Industrija Gumijevih, 64,000 Kranj, Yugoslavia.
H4	Bridgestone-Houfu, Yamaguchi-ken, Japan.
H5	Hutchinson-Mapa, 45120 Chalette Sur Loing, France.
H6	Shin Hung Rubber Co. Ltd., 156 Sang Pyong-Dong Junju, Kyung Nam, Korea.
H7	Li Hsin Rubber Industrial Co. Ltd., 42 Yuan Lu Road, Sec. 1, Taiwan, China.
H8	Firestone, 2600 South Council Road, Oklahoma City, OK. 73124.
H9	Reifen-Berg, 5000 Koln 80 (Mulheim), Clevischer Ring 134, West Germany
JA	The Lee Tire & Rubber Co.
JB	The Lee Tire & Rubber Co.
JC	The Lee Tire & Rubber Co.
JD	The Lee Tire & Rubber Co.
JE	The Lee Tire & Rubber Co.
JF	The Lee Tire & Rubber Co.
JH	The Lee Tire & Rubber Co.
JJ	The Lee Tire & Rubber Co.
JK	The Lee Tire & Rubber Co.
JL	The Lee Tire & Rubber Co.
JM	The Lee Tire & Rubber Co.
JN	The Lee Tire & Rubber Co.
JP	The Lee Tire & Rubber Co.
JT	The Lee Tire & Rubber Co.
JU	The Lee Tire & Rubber Co. (Canada).
JV	The Lee Tire & Rubber Co. (Canada).
JW	The Lee Tire & Rubber Co. (Canada).
JX	Lee Tire & Rubber Co. (Canada).
JY	Lee Tire & Rubber Co. (Argentina).
J1	Phillips Petroleum Co., Bartlesville, OK 74004.
J2	Bridgestone Singapore Co. Ltd., 2 Jurong Port Road, Jurong Town, Singapore 22, Singapore.
J3	Gumarne Maja, Puchov, Czechoslovakia.
J4	Rubena N.P., Nachod, Czechoslovakia.
J5	Lee Tire & Rubber Co., State Rt. 33, Box 799, Logan, Ohio 43138.
J6	Jaroslavl Tire Co., Jaroslavl, USSR.
J7	R&J Mfg. Corp., 1420 Stanley Dr., Plymouth, Indiana 46563.

Code No.	New Tire Manufacturers
J8	DaChung Hua Rubber Ind. Co., Shanghai Tire Plant, 839 Hanyshan Rd., Shanghai, China.
J9	P.T. Intirub, 454 Cilitan, P.O. Box 2626, Besar, Jakarta, Indonesia]
KA	Lee Tire & Rubber Co. (Australia).
KB	Lee Tire & Rubber Co. (Australia).
KC	Lee Tire & Rubber Co. (Brazil).
KD	Lee Tire & Rubber Co. (Colombia).
KE	Lee Tire & Rubber Co. (Republic of Congo).
KF	Lee Tire & Rubber Co. (France).
KH	Lee Tire & Rubber Co. (Germany).
KJ	Lee Tire & Rubber Co. (Germany).
KK	Lee Tire & Rubber Co. (Greece).
KL	Lee Tire & Rubber Co. (Guatemala).
KM	Lee Tire & Rubber Co. (Luxembourg).
KN	Lee Tire & Rubber Co. (India).
KP	Lee Tire & Rubber Co. (Indonesia).
KT	Lee Tire & Rubber Co. (Italy).
KU	Lee Tire & Rubber Co. (Jamaica).
KV	Lee Tire & Rubber Co. (Mexico).
KW	Lee Tire & Rubber Co. (Peru).
KX	Lee Tire & Rubber Co. (Philippines).
KY	Lee Tire & Rubber Co. (Scotland).
K1	Phillips Petroleum Co., 1501 Commerce Drive, Stow, Ohio 44224.
K2	Lee Tire & Rubber Co., Madisonville, KY 42431.
K3	Kenda Rubber Industrial Co. Ltd., Yuanlin, Taiwan.
K4	Uniroyal S.A., Queretaro, Qte. Mexico.
K5	VEB Reifenkombinat Furstenwalde, GDR-124 Furstenwalde-Sud, Trankeweg Germany.
K6	Lee Tire & Rubber Co., One Goodyear Blvd., Lawton, Oklahoma.
K7	Lee Tire & Rubber Co., Camino Melipilla KM16, Maipu Box 3607, Santiago, Chile.
K8	Kelly Springfield Tire Co., Peti Surat 49, Shah, Alam, Sehngor, Malaysia.
K9	Natier Tire & Rubber Co., Ltd., 557 Shan Chiao Road, Sec. 1, Shetou, Changhua, Taiwan, R.O.C. 511]
LA	Lee Tire & Rubber Co. (South Africa).
LB	Lee Tire & Rubber Co. (Sweden).
LC	Lee Tire & Rubber Co. (Thailand).
LD	Lee Tire & Rubber Co. (Turkey.)
LE	Lee Tire & Rubber Co. (Venezuela.)
LF	Lee Tire & Rubber Co. (England).
LH	Uniroyal, Inc. (Australia).
LJ	Uniroyal, Inc. (Belgium).
LK	Uniroyal, Inc. (Columbia).
LL	Uniroyal, Inc. (France).
LM	Uniroyal, Inc. (Germany).
LN	Uniroyal, Inc. (Mexico).
LP	Uniroyal, Inc. (Scotland).
LT	Uniroyal, Inc. (Turkey).
LU	Uniroyal, Inc. (Venezuela).
LV	Mansfield-Denman-General Co., Ltd. (Canada).
LW	Trelleborg Rubber Co., Inc. (Sweden).
LX	Mitsuboshi Belting, Ltd. (Japan).
LY	Mitsuboshi Belting, Ltd. (Japan).
L1	Goodyear Taiwan Ltd., Taipei, Taiwan, Rep. of China.
L2	Wuon Poong Industrial Co., Ltd., 112-5 Sokong-Dong, Chung-Ku, Seoul, Korea.
L3	Tong Shin Chemical Products Co., Ltd., Seoul, Korea.
L4	Cipcmp Intreprinderea De Anvelope, Danubiana, Romania.
L5	Lassa Lastik Sanayi VeTicaret, A.S. Fabrikas, Kosekoy, P.K. 250 Izmit, Turkey.
L6	Modi Rubber Limited, Modipurnam Plant, Meerut UP250110, India.
L7	Cipcmp Intreprinderea De Anvelope, Zalau, Romania.
L8	Dunlop Zimbabwe Ltd., Donnington, Bulawayo, Zimbabwe.

Code No.	New Tire Manufacturers
MA	The Goodyear Tire & Rubber Co.
MB	The Goodyear Tire & Rubber Co.
MC	The Goodyear Tire & Rubber Co.
MD	The Goodyear Tire & Rubber Co.
ME	The Goodyear Tire & Rubber Co.
MF	The Goodyear Tire & Rubber Co.
MH	The Goodyear Tire & Rubber Co.
MJ	The Goodyear Tire & Rubber Co.
MK	The Goodyear Tire & Rubber Co.
ML	The Goodyear Tire & Rubber Co.
MM	The Goodyear Tire & Rubber Co.
MN	The Goodyear Tire & Rubber Co.
MP	The Goodyear Tire & Rubber Co.
MT	The Goodyear Tire & Rubber Co.
MU	The Goodyear Tire & Rubber Co. (Argentina)
MV	The Goodyear Tire & Rubber Co., (Australia)
MW	The Goodyear Tire & Rubber Co. (Australia).
MX	The Goodyear Tire & Rubber Co. (Brazil).
MY	The Goodyear Tire & Rubber Co. (Colombia).
M1	Goodyear Maroc S.A. Casablanca, Morocco.
M2	Goodyear Tire & Rubber Co., Madisonville, KY 42431.
M3	Michelin Tire Corp., 730 S. Pleasantburg Drive, Greenville, S. Carolina 29602.
M4	Goodyear Tire & Rubber Co., Logan, Ohio 43138.
M5	Michelin Tire Mfg. Co. of Canada Ltd., P.O. Box 5000, Kentville, Nova Scotia B4NV36.
M6	Goodyear Tire & Rubber Co., One Goodyear Blvd., Lawton, OK 73504.
M7	Goodyear DeChile S.A.I.C., Camino Melipilla K.M.16 Maipu, P.O. Box 3607, Santiago, Chile.
M8	Premier Tyres Limited, Kalamassery, Kerala State, India]
M9	Uniroyal Tire Corporation, Uniroyal Research Center, Middlebury, CT 06749]
NA	The Goodyear Tire & Rubber Co. (Republic of Congo).
NB	The Goodyear Tire & Rubber Co. (England).
NC	The Goodyear Tire & Rubber Co. (France).
ND	The Goodyear Tire & Rubber Co. (Germany).
NE	The Goodyear Tire & Rubber Co. (Germany).
NF	The Goodyear Tire & Rubber Co. (Greece).
NH	The Goodyear Tire & Rubber Co.
NJ	The Goodyear Tire & Rubber Co. (Luxembourg).
NK	The Goodyear Tire & Rubber Co. (India.)
NL	The Goodyear Tire & Rubber Co. (Indonesia).
NM	The Goodyear Tire & Rubber Co. (Italy).
NN	The Goodyear Tire & Rubber Co. (Jamaica).
NP	The Goodyear Tire & Rubber Co. (Mexico).
NT	The Goodyear Tire & Rubber Co. (Peru).
NU	The Goodyear Tire & Rubber Co. (Philippines).
NV	The Goodyear Tire & Rubber Co. (Scotland).
NW	The Goodyear Tire & Rubber Co. (South Africa).
NX	The Goodyear Tire & Rubber Co. (Sweden).
NY	The Goodyear Tire & Rubber Co. (Thailand).
N1	Maloja AG Pneu Und Gummiwerke, Ormalinger-strasse Gelterkinden, Switzerland, CH 4460.
N2	Hurtubise Nutread, 525 Vickers Street, Tonawanda, N.Y. 14150.
N3	Ryoto Tire Co., Ltd., Kuwana Plant, 2400 Arano Nakagami, Tohin-Cho Inabe-Gun, Mie-ken, Japan.
N4	Cipcmp Intreprinderea De Anvelope, Victoria, Romania.
N5	Pneumant, VEB Reifenwerk Riesa, Paul-Greifzu-Strasse 20, 84 Riesa, Germany.
N6	Pneumant VEB Reifenwerk Heidenau Haudtstrass. 44 GDR, 8312 Heidenau, Germany.
N7	Cipcmp Intreprinderea De Anvelope, Caracal, Romania.
N8	Lee Tire & Rubber Co. (Goodyear, Malaysia Berhad), Peti Surat 49, Shah Alam, Selengor, Malaysia.

Code No.	New Tire Manufacturers	Code No.	New Tire Manufacturers
[N9] -----	Cia Pneus Tropical, Km105/BR, 324, Centro Industrial Desubae 44100, Feira de Santana, Bahia, Brazil]	UC-----	The Kelly-Springfield Tire Co. (Scotland).
PA-----	The Goodyear Tire & Rubber Co. (Turkey).	UD-----	The Kelly-Springfield Tire Co. (South Africa).
PB-----	The Goodyear Tire & Rubber Co. (Venezuela).	UE-----	The Kelly-Springfield Tire Co. (Sweden).
PC-----	The Goodyear Tire & Rubber Co. (Canada).	UF-----	The Kelly-Springfield Tire Co. (Thailand).
PD-----	The Goodyear Tire & Rubber Co. (Canada).	UH-----	The Kelly-Springfield Tire Co. (Turkey).
PE-----	The Goodyear Tire & Rubber Co. (Canada).	UJ-----	The Kelly-Springfield Tire Co. (Venezuela).
PF-----	The Goodyear Tire & Rubber Co. (Canada).	UK-----	The Kelly-Springfield Tire Co. (Canada).
PH-----	The Kelly-Springfield Tire Co.	UL-----	The Kelly-Springfield Tire Co. (Canada).
PJ-----	The Kelly-Springfield Tire Co.	UM-----	The Kelly-Springfield Tire Co. (Canada).
PK-----	The Kelly-Springfield Tire Co.	UN-----	The Kelly-Springfield Tire Co. (Canada).
PL-----	The Kelly-Springfield Tire Co.	UP-----	Copper Tire & Rubber Co.
PM-----	The Kelly-Springfield Tire Co.	UT-----	Copper Tire & Rubber Co.
PN-----	The Kelly-Springfield Tire Co.	UU-----	Carlisle Tire & Rubber Division of Carlisle Corp.
PP-----	The Kelly-Springfield Tire Co.	UV-----	Kyowa Rubber Industry Co., Ltd. (Japan).
PT-----	The Kelly-Springfield Tire Co.	UW-----	Not assigned.
PU-----	The Kelly-Springfield Tire Co.	UX-----	Not assigned.
PV-----	The Kelly-Springfield Tire Co.	UY-----	Not assigned.
PW-----	The Kelly-Springfield Tire Co.	U1-----	Lien Shin Tire Co. Ltd., 20 Chung Shan Road, Taipei, Taiwan.
PX-----	The Kelly-Springfield Tire Co.	U2-----	Sumitomo Rubber Industries Ltd., Shirakawa City, Fukushima Pref. Japan (Dunlop).
PY-----	The Kelly-Springfield Tire Co.	U3-----	Miloje Zakic, 3700 Krusevac, Yugoslavia.
P1-----	Gislaved Gummi Fabriken, 33200 Gislaved, Sweden.	U4-----	Geo. Byers Sons, Inc., 46 East Town Street, Columbus, Ohio 43215.
P2-----	Kelly Springfield, Madisonville, Ky. 42431.	U5-----	Farbentabriken Bayer GMBH, D 5090 Leverkusen, West Germany.
P3-----	Skepplanda Gummi AB, 440-40 Alvangen, Sweden.	U6-----	Pneumant-VEB Reifenwerk Dresden, GDR-8040 Dresden, Mannheimer Strasse Germany.
P4-----	Kelly Springfield, Route 33, Logan, Ohio 43138.	U7-----	Pneumant-VEB Reifenwerk Neubrandenburg GDR-20 Neubrandenburg, Germany.
P5-----	General Popo S.A., Central Camionera, Zona Industrial, San Luis Potosi S.L.P., Mexico.	U8-----	Hsin Fung Factory of Nankang Rubber Corp. Ltd., 399 Hsin Shing Road, Yuan San, Taiwan.
P6-----	Kelly Springfield Tire Co., One Goodyear Blvd., Lawton, OK 73504.	[U9] -----	Cooper Tire & Rubber Company, 1689 South Green Street, Tupelo, MS 38801]
P7-----	Kelly Springfield, Camino Melipilla K.M.16, Maipu, P.O. Box 3607, Santiago, Chile.	VA-----	The Firestone Tire & Rubber Co.
P8-----	China National Chemicals Import & Export Corp., Shandong Branch, Qingdao 97 Cangtai Rd., China.	VB-----	The Firestone Tire & Rubber Co.
[P9] -----	MRF, Ltd., P.B. No. 1 Ponda, Goa 403401, India]	VC-----	The Firestone Tire & Rubber Co.
TA-----	The Kelly-Springfield Tire Co.	VD-----	The Firestone Tire & Rubber Co.
TB-----	The Kelly-Springfield Tire Co. (Argentina).	VE-----	The Firestone Tire & Rubber Co.
TC-----	The Kelly-Springfield Tire Co. (Australia).	VF-----	The Firestone Tire & Rubber Co.
TD-----	The Kelly-Springfield Tire Co. (Australia).	VH-----	The Firestone Tire & Rubber Co.
TE-----	The Kelly-Springfield Tire Co. (Brazil).	VJ-----	The Firestone Tire & Rubber Co.
TF-----	The Kelly-Springfield Tire Co. (Colombia).	VK-----	The Firestone Tire & Rubber Co.
TH-----	The Kelly-Springfield Tire Co. (Republic of Congo).	VL-----	The Firestone Tire & Rubber Co. (Canada).
TJ-----	The Kelly-Springfield Tire Co. (England).	VM-----	The Firestone Tire & Rubber Co. (Canada).
TK-----	The Kelly-Springfield Tire Co. (France).	VN-----	The Firestone Tire & Rubber Co. (Canada).
TL-----	The Kelly-Springfield Tire Co. (Germany).	VP-----	The Firestone Tire & Rubber Co. (Italy).
TM-----	The Kelly-Springfield Tire Co. (Germany).	VT-----	The Firestone Tire & Rubber Co. (Spain).
TN-----	The Kelly-Springfield Tire Co. (Greece).	VU-----	Withdrawn.
TP-----	The Kelly-Springfield Tire Co. (Guatemala).	VV-----	The Firestone Tire & Rubber Co. (Sweden).
TT-----	The Kelly-Springfield Tire Co. (Luxembourg).	VW-----	The Firestone Tire & Rubber Co. (Japan).
TU-----	The Kelly-Springfield Tire Co. (India).	VX-----	The Firestone Tire & Rubber Co. (England).
TV-----	The Kelly-Springfield Tire Co. (Indonesia).	VY-----	The Firestone Tire & Rubber Co. (Wales).
TW-----	The Kelly-Springfield Tire Co. (Italy).	V1-----	Livingston Tire Shop, North Main Street, Hubbard, Ohio 44425.
TX-----	The Kelly-Springfield Tire Co. (Jamaica).	V2-----	Volzhsky Tire Plant, Volzhsk 404103, USSR.
TY-----	The Kelly-Springfield Tire Co. (Mexico).	V3-----	Tahsin Rubber Tire Co. Ltd., Tuchen Village Taipei, Hsieng, Taiwan.
T1-----	Hankook Tire Mfg. Co., Ltd., Seoul, Korea.	V4-----	Ohtsu Tire & Rubber Co., Miyakonojo City, Miyazaki Pref., Japan (Firestone).
T2-----	Ozos (Uniroyal) A.G., Olsztyn, Poland.	V5-----	Firestone Tire & Rubber Co., Mexico City, Mexico.
T3-----	Debickie Zattldy Opon Samochodowych, Stomil, Debica, Poland (Uniroyal).	V6-----	Firestone Tire & Rubber Co., Cuernavaca, Mexico.
T4-----	S.A. Carideng (Rubber Factory), Jan Rosierlaan 114, B 3760 Lanaken, Belgium.	V7-----	Voronezhsky Tire Plant, Voronezh 494034 USSR.
T5-----	Tigar Pirot, 18300 Pirot, Yugoslavia.	V8-----	Boras Gummi Fabrik A.B. Dockvagenl, S502 38 Boras, Sweden (Mac Ripper Tire and Rubber Company).
T6-----	Hulera Tornel S.A., Sta. Lucia 198 Fracc. Ind. San Antonio, Mexico, 16, D.F.	[V9] -----	M & R Tire Co., 309 Main Street, Watertown, MA 02172]
T7-----	Hankook Tire Mfg. Co. Inc., Daejun Plant, 658-1 Sukbong-RI, Daeduk-kun, Choongchung Namdo, Korea.	WA-----	The Firestone Tire & Rubber Co. (France).
T8-----	Goodyear Tire & Rubber Co., Goodyear Malaysia Berhad, Peti Surat 49, Shah Alam, Selangor, Malaysia.	WB-----	The Firestone Tire & Rubber Co. (Costa Rica).
[T9] -----	MRF, Ltd., Thiruthani Road, Ichiputhur 631 060, Arkonam, India]	WC-----	The Firestone Tire & Rubber Co. (Australia).
UA-----	The Kelly-Springfield Tire Co. (Peru).	WD-----	The Firestone Tire & Rubber Co. (Switzerland).
UB-----	The Kelly-Springfield Tire Co. (Philippines).		

<i>Code No.</i>	<i>New Tire Manufacturers</i>
WE _____	Withdrawn.
WF _____	The Firestone Tire & Rubber Co. (Spain).
WH _____	The Firestone Tire & Rubber Co. (Sweden).
WJ _____	The Firestone Tire & Rubber Co. (Australia).
WK _____	Pennsylvania Tire & Rubber Company of Mississippi.
WL _____	The Mansfield Tire & Rubber Co.
WM _____	Olympic Tire & Rubber Co. Pty., Ltd. (Australia).
WN _____	Olympic Tire & Rubber Co Pty., Ltd. (Australia).
WP _____	Schenuit Industries, Inc.
WT _____	Madras Rubber Factory, Ltd. (India).
WU _____	Not Assigned.
WV _____	Not Assigned.
WW _____	Not Assigned.
WX _____	Not Assigned.
WY _____	Not Assigned.
W1 _____	Firestone Tire & Rubber Co., P.O. Box 1000, La Vergne, Tennessee 37086.
W2 _____	Firestone Tire & Rubber Co., Wilson, N. Carolina 27893.
W3 _____	Vredestein Doetinchem B.V., Doetinchem, The Netherlands (B.F. Goodrich).
W4 _____	Dunlop Tyres, Somerton, Victoria, Australia.
W5 _____	Firestone Argentina SAIC, Antartida, Argentina, 2715 Llavollol, Buenos Aires, Argentina.
W6 _____	Firestone Tire & Rubber Co., P.O. Box 1355, Commerce Center, Makati, Risal, Philippines.
W7 _____	Firestone Portuguesa S.A.R.L., Apartado 3, Alco- chete, Portugal.
W8 _____	Firestone Tire & Rubber Co. Ltd., P.O. Box Pra- kanong 11/118, Bangkok, Thailand.
W9 _____	Industrie De Pneumaticos Firestone S.A., Caixa Postal 2505, Rio De Janeiro, Brazil.
XA _____	Pirelli Tire Corp. (Italy).
XB _____	Pirelli Tire Corp. (Italy).
XC _____	Pirelli Tire Corp. (Italy).
XD _____	Pirelli Tire Corp. (Italy).
XE _____	Pirelli Tire Corp. (Italy).

<i>Code No.</i>	<i>New Tire Manufacturers</i>
XF _____	Pirelli Tire Corp. (Spain).
XH _____	Pirelli Tire Corp. (Greece).
XJ _____	Pirelli Tire Corp. (Turkey).
XK _____	Pirelli Tire Corp. (Brazil).
XL _____	Pirelli Tire Corp. (Brazil).
XM _____	Pirelli Tire Corp. (Argentina).
XN _____	Pirelli Tire Corp. (England).
XP _____	Pirelli Tire Corp. (England).
XT _____	Veith-Pirelli A.G. (Germany).
X1 _____	Tong Shin Chemical Products, Co. Inc., Seoul, Korea.
X2 _____	Hwa Fong Rubber Ind. Co. Ltd., 45 Futsen Road, Yuanlin, Taiwan.
X3 _____	Belotserkovsky Tire Plant, Belaya Tserkov, 256414, U.S.S.R.
X4 _____	Pars Tyre Co., (Pirelli), Saveh, Iran.
X5 _____	JK Industries Ltd., Kankroli, Udaipur District, Rajasthan, India.
X6 _____	Bobruysky Tire Plant, Bobruysk 213824 U.S.S.R.
X7 _____	Chimkentsky Tire Plant, Chimkent 486025 U.S.S.R.
X8 _____	Dnepropetrovsky Tire Plant, Dnepropetrovsk 320033 U.S.S.R.
X9 _____	Moscovsky Tire Plant, Moscow 109088 U.S.S.R.
X0 _____	Nizhnekamsky Tire Plant, Nishnekamsk 423510 U.S.S.R.
Y1 _____	Companhia Goodyear DoBrasil, KM-128 Ameri- cana, Sao Paulo, Brasil.
Y2 _____	Dayton Tire Co., Wilson, N. Carolina 27893.
Y3 _____	Seiberling Tire & Rubber Co., Wilson, N. Carolina 27893.
Y4 _____	Dayton Tire & Rubber Co., 345-15th St. S.W., Barberton, Ohio (Firestone).
Y5 _____	Tsentai Rubber Factory, 27 Chung Shan Rd., E.I. Shanghai, China.
Y6 _____	I.T. International Sdn. Bhd., P.O. Box 100 Alor Setar Kedah, Malaysia.
Y7 _____	Bridgestone Tire Co., (U.S.A.) Ltd., I-24 Waldron Dr., La Vergne, Tenn.
Y8 _____	Bombay Tyres International Limited, Hay Bunder Road, Bombay, Maharashtra, India 400 033】

**Miscellaneous New Tire Manufacturers Transactions
As Reported to NHTSA**

<i>Manufacturer</i>	<i>Code</i>	<i>Remark</i>
Armstrong Rubber Company	CE	Plant closed 4/3/81
Bridgestone Tire Company	LH	Purchased from UNIROYAL as of 6/13/82
Ceat, S.p.a.	HU	Sold to Pirelli Tire Corp. in May 1984
Cooper Tire & Rubber Company	U9	Purchased from Pennsylvania Tire & Rubber on 1/24/84
Dayton Tire & Rubber Company	DC	Purchased from Dunlop on 11/1/75
Dunlop Olympic Tyres	DT, DU, WM, W4	Merger of Dunlop and Olympic on 4/29/81
Dunlop Tire & Rubber Corp.	DF, DH, DJ, DP, WN	Plants closed
ditto	DT, DU, WM, W4	Plants sold to Dunlop Olympic on 4/29/81
ditto	DC	Plant sold to Firestone T&R on 11/1/75
Firestone Tire & Rubber	DC	Purchased from Dunlop T&R on 11/1/75
ditto	VV	Plant sold to Viskafors Gummifabrik in April 1980
General Tire & Rubber Company	LV	Purchased from Mansfield-Denman on 11/30/78
B.F. Goodrich Company	BJ	Plant sold 12/79
ditto	BK	Plant sold 1/80
ditto	BM	Plant sold to Olympic in 7/75
ditto	BN	Plant sold 8/81
ditto	BP	Plant sold 5/78
Nitto Tire Company, Ltd.	N3	Plant sold to Ryoto Tire Co., Ltd. on 1/23/80
Olympic Tire & Rubber Co., Pty., Ltd.	WM, W4	Sold to Dunlop Olympic on 4/29/81
ditto	WN	Plant closed in 1978
Pennsylvania Tire & Rubber of Mississippi	WK	Plant sold to Cooper T&R on 1/24/84
Pirelli Tire Corporation	HU	Plant purchased from Ceat, S.p.a. in May 1984
Ryoto Tire Company	N3	Plant purchased from Nitto Tire Company on 1/23/80
SAMYAND Tire, Inc.	XU	Plant closed in 1976
UNIROYAL, Inc.	LH	Plant sold to Bridgestone Tire Company on 6/13/82
Viskafors Gummifabrik AB	VV	Plant purchased from Firestone T&R in April 1980

TABLE 3. TIRE SIZE CODES

Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹
AA	4.00-4	B7	5.00 R 12	D4	6.00 R 13
AB	3.50-4	B8	5.20-12	D5	6.2-13
AC	3.00-5	B9	5.20-12 LT	D6	6.20-13
AD	4.00-5	CA	5.20 R 12	D7	6.40-13
AE	3.50-5	CB	5.30-12	D8	6.40-13 LT
AF	6.90-6	CC	5.50-12	D9	6.40 R 13
AH	3.00-8	CD	5.50-12 LT	EA	6.50-13
AJ	3.50-6	CE	5.50 R 12	EB	6.50-13 LT
AK	4.10-6	CF	5.60-12	EC	6.50-13 ST
AL	4.50-6	CH	5.60-12 LT	ED	6.50 R 13
AM	5.30-6	CJ	5.60 R 12	EE	6.70-13
AN	6.00-6	CK	5.9-12	EF	6.70-13 LT
AP	3.25-8	CL	5.90-12	EH	6.70 R 13
AT	3.50-8	CM	6.00-12	EJ	6.9-13
AU	3.00-7	CN	6.00-12 LT	EK	6.90-13
AV	4.00-7	CP	6.2-12	EL	7.00-13
AW	4.80-7	CT	6.20-12	EM	7.00-13 LT
AX	5.30-7	CU	6.90-12	EN	7.00 R 13
AY	5.00-8	CV	23.5 X 8.5-12	EP	7.25-13
A1	H60-14	CW	125-12	ET	7.25 R 13
A2	4.00-8	CX	125 R 12	EU	7.50-13
A3	4.80-8	CY	125-12/5.35-12	EV	135-13
A4	5.70-8	C1	135-12	EW	135 R 13
A5	16.5 X 6.5-8	C2	135 R 12	EX	135-13/5.65-13
A6	18.5 X 8.5-8	C3	135-12/5.65-12	EY	145-13
A7	CR70-14	C4	145-12	E1	145 R 13
A8	2.75-9	C5	145 R 12	E2	145-13/5.95-13
A9	4.80-9	C6	145-12/5.95-12	E3	150 R 13
BA	6.00-9	C7	155-12	E4	155-13
BB	6.90-9	C8	155 R 12	E5	155 R 13
BC	3.50-9	C9	155-12/6.15-12	E6	155-13/6.15-13
BD	4.00-10	DA	4.80-10	E7	160 R 13
BE	3.00-10	DB	3.25-12	E8	165-13
BF	3.50-10	DC	3.50-12	E9	165 R 13
BH	5.20-10	DD	4.50-12 LT	FA	165-13/6.45-13
BJ	5.20 R 10	DE	5.00-12 LT	FB	165/70 R 13
BK	5.9-10	DF	7.00-12	FC	170 R 13
BL	5.90-10	DH	5.00-13	FD	175-13
BM	6.50-10	DJ	5.00-13 LT	FE	175 R 13
BN	7.00-10	DK	5.00 R 13	FF	175-13/6.95-13
BP	7.50-10	DL	5.20-13	FH	175/70 R 13
BT	9.00-10	DM	5.20 R 13	FJ	185-13
BU	20.5 X 8.0-10	DN	5.50-13	FK	185 R 13
BV	145-10	DP	5.50-13 LT	FL	185-13/7.35-13
BW	145 R 10	DT	5.50 R 13	FM	185/70 R 13
BX	145-10/5.95-10	DU	5.60-13	FN	195-13
BY	4.50-10 LT ²	DV	5.60-13 LT	FP	195 R 13
B1	5.00-10 LT	DW	5.60 R 13	FT	195/70 R 13
B2	3.00-12	DX	5.90-13	FU	D70-13
B3	4.00-12	DY	5.90-13 LT	FV	B78-13
B4	4.50-12	D1	5.90 R 13	FW	BR78-13
B5	4.80-12	D2	6.00-13	FX	C78-13
B6	5.00-12	D3	6.00-13 LT	FY	7.50-12

¹ The letters "H", "S", and "V" may be included in the tire size designation adjacent to or in place of a dash without affecting the size code for the designation.

² As used in this table the letters at the end of the tire size indicate the following: LT—Light Truck, ML—Mining & Logging, MH—Mobile Home, ST—Special Trailer.

TABLE 3. TIRE SIZE CODES—Continued

Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹
F1	140 R 12	J3	175 R 14	L5	E78-14
F2	6.5-13	J4	185-14	L6	ER78-14
F3	185/60 R 13	J5	185 R 14	L7	F78-14
F4	A70-13	J6	185/70 R 14	L8	FR78-14
F5	A78-13	J7	195-14	L9	G78-14
F6	CR78-13	J8	195 R 14	MA	GR78-14
F7	2.25-14	J9	195/70 R 14	MB	H78-14
F8	2.75-14	KA	205-14	MC	HR78-14
F9	3.00-14	KB	205 R 14	MD	J78-14
HA	6.70-14 LT	KC	215-14	ME	JR78-14
HB	165-14 LT	KD	215 R 14	MF	205-14 LT
HC	2.50-14	KE	225-14	MH	G80-24.5
HD	5.00-14 LT	KF	225 R 14	MJ	H80-24.5
HE	5.20-14	KH	620 R 14	MK	7-14.5
HF	5.20 R 14	KJ	690 R 14	ML	8-14.5
HH	5.50-14 LT	KK	AR78-13	MM	9-14.5
HJ	5.60-14	KL	195-14 LT	MN	6.60 R 15
HK	5.90-14	KM	185-14 LT	MP	2.00-15
HL	5.90-14 LT	KN	A80-22.5	MT	2.25-15
HM	5.90 R 14	KP	B80-22.5	MU	2.50-15
HN	6.00-14	KT	C80-22.5	MV	3.00-15
HP	6.00-14 LT	KU	D80-22.5	MW	3.25-15
HT	6.40-14	KV	E80-22.5	MX	5.0-15
HU	6.40-14 LT	KW	F60-14	MY	5.20-15
HV	6.45-14	KX	C60-14	M1	5.5-15
HW	6.50-14	KY	J60-14	M2	5.50-15 L
HX	6.50-14 LT	K1	L60-14	M3	5.50-15 LT
HY	6.70-14	K2	F80-22.5	M4	5.60-15
H1	6.95-14	K3	G80-22.5	M5	5.60 R 15
H2	7.00-14	K4	H80-22.5	M6	5.90-15
H3	7.00-14 LT	K5	J80-22.5	M7	5.90-15 LT
H4	7.00 R 14	K6	A80-24.5	M8	6.00-15
H5	7.35-14	K7	B80-24.5	M9	6.00-15 L
H6	7.50-14	K8	BR78-14	NA	6.00-15 LT
H7	7.50-14 LT	K9	D70-14	NB	6.2-15
H8	7.50 R 14	LA	DR70-14	NC	6.40-15
H9	7.75-14	LB	E70-14	ND	6.40-15 LT
JA	7.75-14 ST	LC	ER70-14	NE	6.40 R 15
JB	8.00-14	LD	F70-14	NF	6.50-15
JC	8.25-14	LE	FR70-14	NH	6.50-15 L
JD	8.50-14	LF	G70-14	NJ	6.50-15 LT
JE	8.55-14	LH	GR70-14	NK	6.70-15
JF	8.85-14	LJ	H70-14	NL	6.70-15 LT
JH	9.00-14	LK	HR70-14	NM	6.70 R 15
JJ	9.50-14	LL	J70-14	NN	6.85-15
JK	135-14	LM	JR70-14	NP	6.9-15
JL	135 R 14	LN	L70-14	NT	7.00-15
JM	135-14/5.65-14	LP	LR70-14	NU	7.00-15 L
JN	145-14	LT	C80-24.5	NV	7.00-15 LT
JP	145 R 14	LU	D80-24.5	NW	7.10-15
JT	145-14/5.95-14	LV	E80-24.5	NX	7.10-15 LT
JU	155-14	LW	F80-24.5	NY	7.35-15
JV	155 R 14	LX	G77-14	N1	7.50-15
JW	155-14/6.15-14	LY	B78-14	N2	7.60-15
JX	155/70 R 14	L1	C78-14	N3	7.60 R 15
JY	165-14	L2	CR78-14	N4	7.75-15
J1	165 R 14	L3	D78-14	N5	7.75-15 ST
J2	175-14	L4	DR78-14	N6	8.00-15

TABLE 3. TIRE SIZE CODES—Continued

Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹
N7	8.15-15	T9	205/70 R 14	WB	11.00-15
N8	8.20-15	UA	215/70 R 14	WC	2.25-16
N9	8.25-15	UB	H60-15	WD	2.50-16
PA	8.25-15 LT	UC	E60-15	WE	3.00-16
PB	8.45-15	UD	F60-15	WF	3.25-16
PC	8.55-15	UE	FR60-15	WH	3.50-16
PD	8.85-15	UF	G60-15	WJ	5.00-16
PE	8.90-15	UH	GR60-15	WK	5.10-16
PF	9.00-15	UJ	J60-15	WL	5.50-16 LT
PH	9.00-15 LT	UK	L60-15	WM	6.00-16
PJ	9.15-15	UL	4.60-15	WN	6.00-16 LT
PK	10-15	UM	2.75-15	WP	6.50-16
PL	10.00-15	UN	2.50-9	WT	6.50-16 LT
PM	7.50-15 LT	UP	2.50-10	WU	6.70-16
PN	7.00-15 TR	UT	5.00-9	WV	7.00-16
PP	8.25-15 TR	UU	6.7-10	WW	7.00-16 LT
PT	9.00-15 TR	UV	C70-15	WX	7.50-16
PU	7.50-15 TR	UW	D70-15	WY	7.50-16 LT
PV	125-15	UX	DR70-15	W1	8.25-16
PW	125 R 15	UY	E70-15	W2	9.00-16
PX	125-15/5.35-15	U1	ER70-15	W3	10-16
PY	135-15	U2	F70-15	W4	8.25-16 LT
P1	135 R 15	U3	FR70-15	W5	9.00-16 LT
P2	135-15/5.65-15	U4	G70-15	W6	11.00-16
P3	145-15	U5	GR70-15	W7	19-400 C
P4	145 R 15	U6	H70-15	W8	165-400
P5	145-15/5.95-15	U7	HR70-15	W9	235-16
P6	155-15	U8	J70-15	XA	185-16
P7	155 R 15	U9	JR70-15	XB	19-400 LT
P8	155-15/6.35-15	VA	K70-15	XC	G45C-16
P9	165-15	VB	KR70-15	XD	E50C-16
TA	165-15 LT	VC	L70-15	XE	F50C-16
TB	165 R 15	VD	LR70-15	XF	7.00-16 TR
TC	175-15	VE	17-400 TR	XH	7.50-16 TR
TD	175 R 15	VF	185-300 TR	XJ	8.00-16.5
TE	175-15/7.15-15	VH	185-300 LT	XK	8.75-16.5
TF	175/70 R 15	VJ	AR78-15	XL	9.50-16.5
TH	180-15	VK	BR78-15	XM	10-16.5
TJ	185-15	VL	C78-15	XN	12-16.5
TK	185 R 15	VM	D78-15	XP	185 R 16
TL	185/70 R 15	VN	E78-15	XT	4.50-17
TM	195-15	VP	ER78-15	XU	2.00-17
TN	195 R 15	VT	F78-15	XV	2.25-17
TP	205-15	VU	FR78-15	XW	2.50-17
TT	205 R 15	VV	G78-15	XX	2.75-17
TU	215-15	VW	GR78-15	XY	3.00-17
TV	215 R 15	VX	H78-15	X1	3.25-17
TW	225-15	VY	HR78-15	X2	3.50-17
TX	225 R 15	V1	J78-15	X3	6.50-17
TY	235-15	V2	JR78-15	X4	6.50-17 LT
T1	235 R 15	V3	L78-15	X5	7.00-17
T2	J80-24.5	V4	LR78-15	X6	7.50-17
T3	ER60-15	V5	N78-15	X7	8.25-17
T4	D78-13	V6	17-15 (17-380 LT)	X8	7.50-17 LT
T5	A78-15	V7	17-400 LT	X9	225/70 R 14
T6	DR70-13	V8	11-15	YA	G50C-17
T7	HR60-15	V9	11-16	YB	H50C-17
T8	E60-14	WA	L84-15	YC	195/70 R 15

TABLE 3. TIRE SIZE CODES—Continued

Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹
YD	4.20-18	2F	9.00-20	4J	13.5-24.5
YE	8-17.5 LT	2H	9.4-20	4K	7.00-20 ML
YF	11-17.5	2J	10.00-20	4L	7.50-20 ML
YH	7-17.5	2K	10.3-20	4M	8.25-20 ML
YJ	8-17.5	2L	11.00-20	4N	9.00-20 ML
YK	8.5-17.5	2M	11.1-20	4P	10.00-20 ML
YL	9.5-17.5	2N	11.50-20	4T	10.00-22 ML
YM	10-17.5	2P	11.9-20	4U	10.00-24 ML
YN	14-17.5	2T	12.00-20	4V	11.00-20 ML
YP	9-17.5	2U	12.5-20	4W	11.00-22 ML
YT	205/70 R 15	2V	13.00-20	4X	11.00-24 ML
YU	2.25-18	2W	14.00-20	4Y	11.00-25 ML
YV	2.50-18	2X	6.50-20 LT	41	12.00-20 ML
YW	2.75-18	2Y	7.00-20 LT	42	12.00-21 ML
YX	3.00-18	21	13/80-20	43	12.00-24 ML
YY	3.25-18	22	14/80-20	44	12.00-25 ML
Y1	3.50-18	23	2.75-21	45	13.00-20 ML
Y2	4.00-18	24	3.00-21	46	13.00-24 ML
Y3	4.50-18	25	2.50-21	47	13.00-25 ML
Y4	6.00-18	26	2.75-20	48	14.00-20 ML
Y5	7.00-18	27	10.00-22	49	14.00-21 ML
Y6	7.50-18	28	11.00-22	5A	14.00-24 ML
Y7	8.25-18	29	11.1-22	5B	14.00-25 ML
Y8	9.00-18	3A	11.9-22	5C	10.3-20 ML
Y9	10.00-18	3B	12.00-22	5D	11.1-20 ML
1A	11.00-18	3C	14.00-22	5E	12.5-20 ML
1B	6.00-18 LT	3D	11.50-22	5F	9-22.5 ML
1C	6.00-20 LT	3E	4.10-18	5H	9.4-22.5 ML
1D	L50C-18	3F	4.10-19	5J	10-22.5 ML
1E	7.00-18 LT	3H	7-22.5	5K	10.3-22.5 ML
1F	12-19.5	3J	8-22.5	5L	11-22.5 ML
1H	2.00-19	3K	8.5-22.5	5M	11-24.5 ML
1J	2.25-19	3L	9-22.5	5N	14-17.5 ML
1K	2.50-19	3M	9.4-22.5	5P	15-19.5 ML
1L	2.75-19	3N	10-22.5	5T	15-22.5 ML
1M	3.00-19	3P	10.3-22.5	5U	16.5-19.5 ML
1N	3.25-19	3T	11-22.5	5V	16.5-22.5 ML
1P	3.50-19	3U	11.1-22.5	5W	18-19.5 ML
1T	4.00-19	3V	11.5-22.5	5X	18-22.5 ML
1U	11.00-19	3W	11.9-22.5	5Y	19.5-19.5 ML
1V	9.5-19.5	3X	12-22.5	51	23-23.5 ML
1W	10-19.5	3Y	12.5-22.5	52	18-21 ML
1X	11-19.5	31	15-22.5	53	19.5-21 ML
1Y	7-19.5	32	16.5-22.5	54	23-21 ML
11	7.5-19.5	33	18-22.5	55	6.00-13 ST
12	8-19.5	34	215/70 R 15	56	7.35-14 ST
13	9-19.5	35	225/70 R 15	57	8.25-14 ST
14	14-19.5	36	185/60 R 13	58	7.35-15 ST
15	15-19.5	38	9.00-24	59	8.25-15 ST
16	16.5-19.5	38	10.00-24	6A	12.00-22 ML
17	18-19.5	39	11.00-24	6B	4.30-18
18	19.5-19.5	4A	12.00-24	6C	3.60-19
19	6.00-20	4B	14.00-24	6D	3.00-20
2A	6.50-20	4C	3.50-7	6E	4.25-18
2B	7.00-20	4D	3.00-4	6F	MP90-18
2C	7.50-20	4E	12.5-24.5	6H	3.75-19
2D	8.25-20	4F	11-24.5	6J	MM90-19
2E	8.5-20	4H	12-24.5	6K	3.25-7

TABLE 3. TIRE SIZE CODES—Continued

Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹
6L	2.75-16	8N	2-22½	0T	Not Assigned
6M	4.00-16	8P	2¼-15	0U	BR60-13
6N	7.9	8T	2¼-16	0V	15.00-20
6P	25X 7.50-15	8U	2¼-17	0W	16.00-20
6T	27X 8.50-15	8V	2¼-18	0X	12/80-20
6U	27X 9.50-15	8W	2¼-19	0Y	14/80-24
6V	29X 12.00-15	8X	2¼-19 R	01	15.5/80-20
6W	31X 13.50-15	8Y	2¼-20	02	13-22.5
6X	31X 15.50-15	81	2½-8	03	21-22.5
6Y	C70-14	82	2½-9	04	9/70-22.5
61	Not Assigned	83	2½-16	05	10/70-22.5
62	Not Assigned	84	2½-17	06	11/70-22.5
63	Not Assigned	85	2½-18	07	12/70-22.5
64	Not Assigned	86	2½-19	08	13/70-22.5
65	Not Assigned	87	2½-19 R	09	7.25/75-17.5
66	3.40-5	88	2¾-9	10	8.00/75-17.5
67	4.10-4	89	2¾-16	20	8.75/75-17.5
68	4.10-5	9A	2¾-17	30	9.50/75-17.5
69	175-14 LT	9B	2¾-17 R	40	7.25/75-16.5
7A	11-14	9C	3-10	50	8.00/75-16.5
7B	E78-14 LT	9D	3-12	60	8.75/75-16.5
7C	G78-15 LT	9E	21 x 4	70	9.50/75-16.5
7D	H78-15 LT	9F	22 x 4½	80	6.70-14 C
7E	180 R 15	9H	15.50-20	90	7-17.5 C
7F	185-16 LT	9J	18.50-20	RA	125-12 C
7H	205-16 LT	9K	19.50-20	RB	125-13 C
7J	215-16 LT	9L	2¼-14	RC	125-14 C
7K	F78-16 LT	9M	2½-20	RD	125-15 C
7L	H78-16 LT	9N	2¾-16 R	RE	135-12 C
7M	L78-16 LT	9P	2¾-18	RF	135-13 C
7N	135 R 10	9T	10-20	RH	135-14 C
7P	6.95-14 LT	9U	11-24	RJ	135-15 C
7T	7-14.5 MH	9V	11.25-24	RK	145-10 C
7U	8-14.5 MH	9W	15 x 4½-8	RL	145-12 C
7V	9-14.5 MH	9X	14.75/80-20	RM	145-13 C
7W	4.25/85-18	9Y	23 x 5	RN	145-14 C
7X	A78-14	91	25 x 6	RP	145-15 C
7Y	7.50-18 MPT	92	15 x 4½-8	RT	155-12 C
71	10.5-18 MPT	93	18 x 7-8	RU	155-13 C
72	12.5-18 MPT	94	21 x 8-9	RV	155-14 C
73	12.5-20 MPT	95	23 x 9-10	RW	155-15 C
74	14.5-20 MPT	96	27 x 10-12	RX	A60-13
75	10.5-20 MPT	97	2.00-15 TR	RY	C60-15
76	10.5-20	98	2.50-15 TR	R1	155-16 C
77	8.25-10	99	3.00-15 TR	R2	165-13 C
78	150 R 12	0A	GR60-14	R3	165-16 C
79	150 R 14	0B	560 x 165-11	R4	175-13 C
8A	1¾-19	0C	680 x 180-15	R5	175-15 C
8B	1¾-19¾	0D	8.55-15 ST	R6	175-16 C
8C	2-12	0E	3.50-14	R7	185-13 C
8D	2-16	0F	3.25-14	R8	185-15 C
8E	2-17	0H	3.50-15	R9	195-15 C
8F	2-17 R	0J	AR70-13	A0	195-16 C
8H	2-18	0K	B60-13	B0	205-15 C
8J	2-19	0L	245/60 R 14	C0	215-14 C
8K	2-19 R	0M	255/60 R 15	D0	215-15 C
8L	2-19¾	0N	2¾-15	E0	225-14 C
8M	2-22	0P	2.50-20	F0	225-15 C

TABLE 3. TIRE SIZE CODES—Continued

Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹	Tire Size Code	Tire Size Designation ¹
H0 _____	225-16 C	BR _____	LR60-15	VR _____	13/80-24
J0 _____	235-14 C	CR _____	ER60-15	WR _____	175-16 C
K0 _____	235-15 C	DR _____	D60-13	XR _____	195-16 C
L0 _____	235-16 C	ER _____	C60-13	YR _____	BR70-13
M0 _____	21-400 C	FR _____	D60-14	1R _____	185-15 LT
N0 _____	3.50-20	HR _____	175/70 R 14	2R _____	13-22.5 ML
P0 _____	3.75-15	JR _____	MN90-18	3R _____	MR70-15
T0 _____	3.60-18	KR _____	MR90-18	4R _____	E60-26.5
U0 _____	3.00-10 C	LR _____	4.25-19	5R _____	6.7-12
V0 _____	4.00-10 C	MR _____	230-15	6R _____	5.4-14
W0 _____	4.00-8 C	NR _____	5.4-10	7R _____	7.4-14
X0 _____	4.50-8 C	PR _____	ER60-13	8R _____	5.4-16
Y0 _____	265/60 R 14	TR _____	FR60-14	9R _____	4.60-18
AR _____	215/60 R 15	UR _____	C60C-15		

36 F.R. 7539
April 21, 1971

PREAMBLE TO PART 575—CONSUMER INFORMATION

Action on Petitions for Reconsideration—Amendment

Regulations requiring manufacturers of passenger cars and motorcycles to provide information on vehicle stopping distance (§ 375.101), tire reserve load (§ 375.102), and acceleration and passing ability (§ 375.106) were issued by the Federal Highway Administrator and published in the *Federal Register* on January 25, 1969 (34 F.R. 1246). Several petitions for reconsideration of these regulations were received. In response to these petitions, and in order to clarify and simplify the requirements and the information to be provided to purchasers, these regulations are hereby amended and reissued in the form set forth below.

§ 375.101 Vehicle stopping distance. This section required that manufacturers state the tire size, type and size of brakes, method of brake actuation and auxiliary brake equipment, and maximum loaded and lightly loaded vehicle weights. The effect of stating these requirements was to greatly restrict the grouping of vehicles and options that was permitted for the purposes of furnishing information. It has been determined that in order to reduce the required number of different information documents, manufacturers should be permitted to group vehicles at their discretion, as long as each vehicle in the group can meet or exceed the performance levels indicated, and the vehicles in each group are identified in the terms by which they are normally described to the public. The requirement for specific descriptive information is therefore deleted.

Since the information must be valid for all vehicles in the group to which it applies, the requirement that it refer to the smallest tire size offered has been found unnecessary, and deleted. It has also been determined that variations in stopping distances between different vehicles at 30 mph are not as meaningful for comparison

purposes as those at 60 mph, and therefore information is required only for the latter speed.

It should be noted that the regulations establish the conditions under which the performance level represented by the information provided can be met or exceeded by every vehicle to which the information applies. They do not establish the procedures by which manufacturers should generate the information, although those procedures are to be inferred from the regulations. For example, both sections contain the condition that wind velocity is zero. This does not mean that manufacturers' tests must be conducted under still air conditions; it means that the performance level established must be attainable by all vehicles in the group under those conditions. One obvious method of satisfying the condition from the manufacturer's standpoint is to conduct verification tests under adverse wind conditions (tailwind for braking, headwind for acceleration). As another example, the condition that ambient temperature be between 32°F and 100°F means that the information presented must be attainable by all vehicles in the group at all temperatures within that range (when other conditions are as stated).

The amended section requires that stopping distances be those attainable without lock-up on any wheel. This condition is the most meaningful from a safety standpoint, since steering control tends to be lost when wheels are locked. Several petitioners submitted data showing minimal differences in maximum and lightly loaded vehicle weight stopping distances to support their request for substitution of a single test weight. Their results, however, were apparently derived from tests conducted with locked wheels, under which conditions stopping distance becomes a function largely of vehicle velocity and the friction coefficient between the tire and the

road, and has no relationship to vehicle weight. It is believed that the condition of no wheel lock-up will result in data showing meaningful differences in stopping distances test weights. Accordingly, the requirement of information covering these two vehicle weight conditions is retained, and petitions on this point are denied.

The section as issued required performance information for a partially failed service brake subsystem ("emergency brake system") only at maximum loaded vehicle weight. It has been determined that in some cases the most adverse condition may occur at lighter loads. The amended rule therefore requires information for "the most adverse combination of maximum or lightly loaded vehicle weight and complete loss of braking in one or the other of the vehicle brake subsystems."

Several petitioners suggested that information be limited to one test weight, instead of requiring it for both lightly loaded and maximum loaded vehicle weight. It has been determined, however, that information on both conditions may reveal vehicles having superior brake balance, and the advantage of anti-skid or load proportioning devices, and also aid purchasers who travel mainly in one or the other of the loading conditions. The petitions to that effect are therefore denied.

§ 375.102 *Tire reverse load.* The section required that manufacturers state the number of passengers and the cargo and luggage weight for two different loading conditions, and the actual vehicle weight within a range of no more than 100 pounds under those conditions. These requirements restricted the grouping of vehicles and options that was permitted for the purposes of furnishing information. It has been determined that in order to reduce the required number of different information documents, manufacturers should be permitted to group vehicles by recommended tire size designations regardless of weight, as long as the reserve load figure is met or exceeded by every vehicle in the group. The requirements for providing weight and loading information are therefore deleted.

Section 375.102 as issued required that reverse load figures be provided for the vehicle at normal vehicle weight (2 or 3 persons and no luggage) as well as maximum loaded vehicle weight. It also required the furnishing of a "tire over-

load percentage", the percentage difference between the load rating of a tire at recommended inflation pressures for normal vehicle weight and the load on the tire at maximum loaded vehicle weight. Several petitions suggested that the providing of these various percentage figures would tend to confuse persons to whom the information is furnished, and therefore decrease its usefulness to the consumer. Representatives of consumer groups have also suggested, in earlier proceedings concerning the consumer information regulations, that for maximum usability the information should be as simple and clear as possible. In light of these considerations, it has been determined that the tire reserve load figure provided should be limited to a single percentage for each recommended tire size designation, at maximum loaded vehicle weight and the manufacturer's recommended inflation pressure. The requirements for tire reserve load at normal vehicle weight and for tire overload percentage accordingly are deleted.

Two further changes in the calculation methods have been made for simplicity and clarity. Instead of using the actual load on each wheel as the basis for calculation, the wheel load figure is changed to one-half of each axle's share of the maximum loaded vehicle weight. This reflects the method used in Standard No. 110 for determining the vehicle maximum load on the tire. Also, the denominator of the fraction representing the tire reserve load percentage is changed from the load on the wheel to the load rating of the tire. A tire with a load rating of 1500 pounds, for example, used with a wheel load of 900 pounds, would have a reserve load percentage of 40% ($600/1500 \times 100$) rather than 66⅔% ($600/900 \times 100$). The former figure has been determined to be somewhat more meaningful in cases of large reserve loads.

§ 375.106 *Acceleration and passing ability.* The section as issued required that times be provided for acceleration from 20 to 35 mph and from 50 to 80 mph, and times and distances for prescribed passing maneuvers involving two lane changes. On the basis of petitions submitted, and further consideration of the need for simplicity and clarity in the information presented, it has been determined that the most useful information would be in the form of passing dis-

tances and times for a simple straight-line passing maneuver at low and high speeds. In order to eliminate the difficulties of conducting a uniform passing maneuver involving a long pace vehicle and a limiting of the passing speed precisely to a specified level, the information required is to be derived on the basis of a time-distance plot of vehicle performance at maximum acceleration from 20 to 35 and 50 to 80 miles per hour.

For reasons discussed above in regard to section 375.101, the requirement of providing the weight of the vehicle is deleted from this section.

Because the amended section does not require information relating to an actual passing maneuver, but only that based on two straight-line acceleration maneuvers with a simple graphic computation, the exception of manufacturers of 500 or fewer vehicles annually from certain of the requirements is removed from this section.

Several petitioners contended that the requirement that information be provided under the condition of full-power operation of a vehicle air conditioner would lead to variable, non-repeatable results. This may be true of the results achieved in manufacturers' tests. The information presented is not, however, to be simply the results of manufacturers' tests, but rather a minimum level of performance that can be met or exceeded by every vehicle to which the information applies. Manufacturers are free, therefore, to adjust the data to account for any variation in results that might be encountered. The degradation of acceleration ability by the use of an air conditioner may be significant in some cases, and therefore it is important from the standpoint of safety that it be reflected in the information provided. The petitions to the contrary are accordingly denied.

Some petitioners objected to the required use of a correction factor to ambient conditions in accordance with SAE Standard J816a, pointing out that the factor was designed to be applicable exclusively to engine dynamometer testing and not to road testing of vehicles. The contention has

been found to have merit. In the section as amended, ranges of ambient conditions of temperature, dry barometric pressure, and relative humidity are provided, and the information is required to be valid at all points within those ranges.

In addition to the above, a new paragraph (c), containing specific definitions, is added to section 375.2, Definitions.

In order to allow adequate time for manufacturers to prepare the information, the three sections are effective for vehicles manufactured on or after January 1, 1970.

In consideration of the above, 49 CFR §§ 375.101, 375.102, and 375.106 are amended, and a new paragraph (c) is added to § 375.2, to read as set forth below. This notice of action on petitions for reconsideration is issued under the authority of sections 112 and 119 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1401, 1407) and the delegation of authority by the Secretary of Transportation to the Federal Highway Administrator, 49 CFR 1.4(c).

Issued: May 19, 1969.

F. C. Turner

Federal Highway Administrator

SUBPART A—GENERAL

Sec.

- 375.1 Scope.**
- 375.2 Definitions.**
- 375.3 Matter Incorporated by reference.**
- 375.4 Applicability.**
- 375.5 Separability.**
- 375.6 Requirements.**

SUBPART B—CONSUMER INFORMATION ITEMS

- 375.101 Vehicle Stopping Distance.**
- 375.102 Tire reserve load.**
- 375.103 Reserved.**
- 375.104 Reserved.**
- 375.105 Reserved.**
- 365.106 Acceleration and passing ability.**

May 23, 1969

34 F.R. 8112

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Amended regulations concerning the furnishing of consumer information for motor vehicles, 49 CFR §§ 375.101, 102, 106, were published in the *Federal Register* of May 23, 1969 (34 F.R. 8112). Sections 375.101, *Vehicle Stopping Distance*, and 375.106, *Acceleration and Passing Ability*, in subsections (d)(7) and (d)(1)(vii) respectively, specified that the information provided shall be valid for road surfaces with a skid number of 70, as measured in accordance with American Society for Testing and Materials Method E-274 at 40 miles per hour, omitting water delivery as specified in paragraph 7.1 of that Method.

Several petitions for reconsideration have been received, requesting that the skid number condition be set at higher level because there are only a limited number of test tracks presently with surfaces of that low a skid number. It is recognized that the level of 70 may be somewhat lower than many existing test track and road surfaces. It has been determined, in light of the petitions received, that the skid number condition can be set at a somewhat higher level without detracting from the value of the information provided or the enforceability of the regulations. Accordingly, the figure "70" in sections 375.101(d)(7) and 375.106(d)(1)(vii) is hereby changed to "75".

One petitioner requested a delay in the effective date of the regulation because of difficulties in obtaining equipment for the measurement of skid number. In light of the relaxation of the skid number requirement embodied in this notice, and the possibility of temporarily leasing either measuring equipment or test facilities, evidenced by fact that only one such request was received, the request for a delay in effective date is denied.

Since this amendment relaxes a requirement and imposes no additional burden on any person, notice and opportunity for comment thereon are unnecessary and the amendment is incorporated into the above-referenced regulations without change in the effective date. This notice of amendment in response to petitioners for reconsideration is issued under the authority of sections 112 and 119 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1402, 1407) and the delegation of authority by the Secretary of Transportation to the Federal Highway Administrator, 49 CFR § 1.4(c).

Issued on July 14, 1969.

F. C. Turner
Federal Highway Administrator

34 F.R. 11974
July 16, 1969

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Regulations requiring manufacturers of motor vehicles to provide information to consumers concerning performance characteristics of their vehicles were published on January 25, 1969 (34 F.R. 1246), and amended on May 23, 1969 (34 F.R. 8112). By notice of July 11, 1969 (34 F.R. 11501) it was proposed that the regulations be amended to require manufacturers to provide the information to prospective purchasers, as well as those who have already bought a vehicle, and also to provide the information to the Administrator 30 days before the information is required to be provided to purchasers.

No general objections to the proposed amendment were received. One manufacturer objected to the requirement of providing copies to the Administrator 30 days in advance, on the basis that this did not allow sufficient lead time from the date of the proposal. In light of the fact that the information required to be provided consists only of performance figures that the manufacturer is certain can be exceeded by its vehicles, that the information must be provided in large quantities to dealers by January 1, 1970, and that no other manufacturers evidenced difficulty in meeting the December 1 date, the objection is found not to be meritorious.

The Automobile Manufacturers Association made two suggestions for changes to the regulation, both of which have been accepted and incorporated into the regulation. One change adds language to make it clear that the locations at which the information is to be provided are outlets with which the manufacturer has some legal connection. The other is that the date on which information relating to newly introduced vehicles

is required is the "announcement date", on which dealers are authorized to display and sell the vehicles.

The proposal stated that three copies should be submitted to the Administrator by December 1, 1969. It has been determined that in light of the need for immediate processing and the large amount of information that will be received at that time, a somewhat larger number of copies will be needed. The number of copies has been changed, accordingly, from three to ten. Since the additional burden on automotive manufacturers of providing these copies appears to be insubstantial, a further notice of proposed rule-making is found to be unnecessary. Other minor changes in wording are made for clarity.

Effective Dates: Subsections (a) and (b) of § 375.6, Requirements, are effective January 1, 1970. Subsection (c) of that section is effective December 1, 1969.

In light of the foregoing, Subpart A—General, of 49 CFR Part 375 is amended to read as set forth below. This amendment is issued under the authority of sections 112 and 119 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1401, 1407), and the delegation of authority from the Secretary of Transportation to the Federal Highway Administration, 49 CFR § 1.4(c).

Issued on October 16, 1969.

E. H. Holmes, Acting
Federal Highway Administrator

34 F.R. 17108
October 22, 1969

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Motorcycle Brake Burnishing Requirement

On May 23, 1969, the Federal Highway Administration published 49 CFR § 375.101, Vehicle Stopping Distance, of the Consumer Information Regulations (34 F.R. 8112). Paragraph (e)-(1)(ii) of that section, describing the burnishing procedures for motorcycles, is as follows: "Same as for passenger cars, except substitute 30 m.p.h. for 40 m.p.h. and 150° F. for 250° F., and maintain hand lever force to foot lever force ratio of approximately 1 to 2."

A manufacturer has stated that such a burnishing procedure, which was drawn from a draft SAE Recommended Practice, would be inappropriate for its vehicles, and suggests that the required burnishing procedures should be that recommended by the manufacturer. Since it appears that a uniform burnishing procedure suitable for all motorcycles has not yet been developed, the suggestion is found to have merit, to the extent that manufacturers have recommended such procedures. A general burnishing procedure must still be specified, however, for the purpose of determining compliance of those vehicles for which the manufacturers have not made a procedure publicly available. Accordingly, subparagraph (e)(1)(ii) of section 375.101 is hereby amended to read as follows:

"Motorcycles. Adjust and burnish brakes in accordance with manufacturer's recommendations. Where no burnishing procedures have been recommended by the manufacturer, follow the procedure specified above for passenger cars, except substitute 30 m.p.h. for 40 m.p.h. and 150° F. and 250° F., and maintain hand lever force to foot lever force ratio of approximately 1 to 2."

The Consumer Information regulations require manufacturers to submit information to the

FHWA by December 2, 1969, and it is important, therefore, that this amendment to the regulations be made effective without delay. The regulations require only that the manufacturers submit information to purchasers (and to the FHWA) as to performance levels that can be met or exceeded by their vehicles, and it is not necessary that vehicles be retested as long as they perform as well under the manufacturers' own burnishing procedures as under the previously specified ones. Manufacturers are, of course, free to provide new performance figures at any time, under the procedures specified in Part 375. If in a particular case a manufacturer determines that its vehicles may not be able to meet the performance figures provided when its own recommended burnishing procedures are utilized, and is not able to provide new and appropriate figures within the time specified, it should include a notation to that effect at the time that the figures are first provided to the FHWA. The vehicles in question will not be considered to be in violation of the regulations if they meet the performance figures provided under the previously specified burnishing procedures, and if new and corrected figures are provided under section 375.101, as amended, not later than September 1, 1970.

Because of the importance of providing to consumers by January 1, 1970, the probability that few if any manufacturers will be adversely affected by the amendment, and the provisions for relief included herein, notice and public procedure thereon are found to be impracticable, unnecessary, and contrary to the public interest, and the amendment described above is made effective on publication in the *Federal Register*.

Effective: November 26, 1969

This amendment is issued under the authority of sections 112 and 119 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1401, 1407), and the delegation of authority from the Secretary of Transportation to the Federal Highway Administrator, 49 CFR § 1.4(c).

Issued on November 24, 1969.

**F. C. Turner
Federal Highway Administrator**

**34 F.R. 18865
November 26, 1969**

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION
(Availability Requirements)

The purpose of this notice is to amend section 575.6 of the Consumer Information Regulations (49 CFR Part 575) to require that the information supplied pursuant to Subpart B of the Regulations be provided in sufficient quantity to permit retention by prospective customers or mailing to them upon request. A notice of proposed rulemaking was published on January 14, 1971 (36 F.R. 557), proposing to carry out the legislative mandate of P.L. 91-625 (84 Stat. 262). That legislation was designed to remedy difficulties resulting from the current practice of making consumer information available only in the showroom, by permitting the Secretary to require that the information be provided in a printed format which could be retained by customers who visit the showroom or mailed to others upon their request.

A limited number of comments were received in response to the Notice, some of which merely expressed support for the additional requirement. The Chrysler Corporation requested that the amendment be clarified to provide that temporary unavailability would not constitute a failure to comply with the regulations. As is noted in the Notice of proposed rulemaking, the uncertainty of demand makes it difficult to establish precise standards as to what is "sufficient." It has been determined, therefore, that any further specification of this provision would be inappropriate at this time. It is intended that

manufacturers and dealers will cooperate to take all reasonable steps to ensure that a continuous supply of the information is available.

The Chrysler Corporation further requested that the regulation clearly indicate that a reasonable charge can be made for the materials. The legislative history of P.L. 91-625 indicates that a major purpose of the amendment was to make consumer information more easily available to consumers in making their purchase. A charge for consumer information on several makes and models of vehicles could present the car shopper with as great an obstacle to availability of information as is the case with the present system. In view of this purpose and the general aim of the consumer information regulations to provide for as wide a dissemination of information as possible, it has been determined that the retention copies should be provided without charge.

In consideration of the above, 49 CFR 575.6(b) is amended. . . .

Effective date: January 1, 1972.

Issued on September 28, 1971.

Douglas W. Toms
Administrator

36 F.R. 19310
October 2, 1971

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Truck-Camper Loading)

(Docket No. 71-7; Notice 5)

This notice reissues the portion of 49 CFR § 571.126, Motor Vehicle Safety Standard No. 126, *Trucker-Camper Loading*, that was previously applicable to truck manufacturers as a consumer information regulation, 49 CFR § 575.103, *Truck-Camper Loading*. It also responds to petitions for reconsideration of Standard No. 126 on issues that are not addressed in Notice 4, which is published in this issue (37 F.R. 26605).

Petitions for reconsideration of Standard No. 126 (37 F.R. 16497) were filed by Chrysler Corporation (Chrysler), Ford Motor Company (Ford), General Motors Corporation (GM), Jeep Corporation (Jeep), Motor Vehicle Manufacturers Association (MVMA) Recreational Vehicle Institute, Inc. (RVI) and Toyota Motor Sales USA, Inc. (Toyota).

In response to information contained in some of the petitions, the portions of the standard previously applicable to truck manufacturers are being reissued under this notice as a consumer information regulation for the reasons stated in Notice 4. Minor amendments are also made to the regulation on the basis of some of the petitions while the Administrator has declined to grant requested relief from other requirements of the regulation.

1. *Effective date.* GM has petitioned for a delayed effective date. As a truck manufacturer, GM feels that additional lead time is required "to develop, process, and print the necessary information on an orderly basis." The Administration has found for good cause shown that an effective date earlier than 180 days after issuance of Standard No. 126 was in the public interest; however, to allow truck manufacturers sufficient time for testing to determine cargo

center of gravity locations the effective date of the requirements applicable to truck manufacturers is being extended 2 months, until March 1, 1973.

2. *Definitions and information.* As discussed in Notice 4 Ford objected to the definition of "cargo weight rating" and the term "total load". Standard No. 126 has been amended to meet Ford's objections, and similar changes are made in the terminology of the new truck consumer information regulation.

Ford also suggests that the phrase "any additional weight carried in or on the camper" should be substituted for "the weight of camper cargo, and the weight of passengers in the camper" in paragraph S5.2.1(d) of Standard No. 126, now § 575.103(e)(3). It believes the suggested language would be more meaningful to the average user and that the present language could be construed as endorsing the carrying of passengers in campers. Ford's request is denied. The NHTSA considers that the specificity of references to cargo and passengers is more meaningful to consumers than the general reference to "any additional weight". Further, given the prevalence of carrying passengers in campers, the NHTSA does not believe that the present language can realistically be considered to have a significant effect on this practice.

Both Ford and GM objected to the paragraph requiring the manufacturer to furnish trailer towing recommendations, on the grounds of vagueness and lack of prior notice and opportunity to comment. The NHTSA concurs, and is deleting this requirement.

Ford suggests that paragraph S5.2.1(a) of Standard No. 126 (now § 575.103(e)(1)) should be revised to make clear that the slide-in camper

also has a center of gravity designation determined in accordance with the regulation, which falls within the boundaries specified by the vehicle manufacturer. Since campers manufactured before the effective date of the regulation may be mounted on trucks manufactured after March 1, 1973, Ford's suggestion has not been adopted.

GM has petitioned that a warning be required to accompany the regulation's information, stating that the longitudinal center of gravity is only one of the many factors affecting the overall performance of a vehicle and that other factors concerning vehicle handling should be considered by the operator. The NHTSA denies GM's petition on this point. Proper loading and load distribution in truck-camper combinations is a highly significant handling factor, and such a warning might cause a truck operator to feel the loading information presented is of little significance. The regulation does not, however, prohibit GM or other manufacturers from furnishing such additional warnings if they see fit.

GM has also asked for a confirmation of its assumption that "the pictorial representation of

the recommended longitudinal center of gravity zone for the cargo weight rating need not be to scale but can be generalized so long as the longitudinal boundaries of the zone are clearly set forth." The NHSTA agrees with this interpretation.

Effective Date: March 1, 1973.

In consideration of the foregoing, 49 CFR Part 575 is amended by adding a new § 575.103, *Truck-camper Loading*. . . .

This notice is issued pursuant to the authority of sections 112 and 119 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 USC 1401, 1407) and the delegation of authority at 49 CFR 1.51.

Issued on December 6, 1972.

Douglas W. Toms
Administrator

37 F.R. 26607
December 14, 1972

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Truck-Camper Loading

(Docket No. 71-7; Notice 6)

This notice responds to petitions for reconsideration of 49 CFR § 575.103, *Truck-camper loading*, with amendments extending the effective date to April 1, 1973, and allowing optional wording of certain statements until October 1, 1973.

On December 14, 1972, Part 575 of Title 49, Code of Federal Regulations, was amended by adding § 575.103 *Truck-camper loading* (37 F.R. 26607). The amendment was in essence that portion of Federal Motor Vehicle Safety Standard No. 126, *Truck-camper loading* that applied to manufacturers of trucks accommodating slide-in campers, as originally published on August 15, 1972 (37 F.R. 16497). Pursuant to 49 CFR § 553.35, petitions for reconsideration of § 575.103 have been filed by General Motors Corporation and International Harvester Company. Ford Motor Company has asked for a clarification.

In response to information contained in these petitions the regulation is being amended in certain respects, and a new effective date of April 1, 1973 adopted. Requested changes in other requirements of the regulation are denied.

1. *Effective date*: Both petitioners request delay of the effective date of the regulation for at least 60 days, until May 1, 1973 at the earliest. One reason for the request is that petitioners had printed their manuals on the basis of the notice of August 15, 1972, and that the additional time is needed to print new materials conforming to modified texts published on December 14, 1972. General Motors also states that the additional time is needed to prepare and disseminate data in a manner meeting the requirement that it be available to prospective purchasers. While data has been prepared for each truck, it has not yet been consolidated into a single sheet or pamphlet

suitable for showroom display and availability. The requests of both petitioners reflect the probability that the material will not be submitted to the Administrator at least 30 days before it is available to prospective purchasers, as required by § 575.6(c), and the possibility that the data will not be ready by March 1, 1973.

The NHTSA has determined that good cause has been shown for postponement of the effective date until April 1, 1973. This agency recognizes, however, that the minor textual changes made in the December notice create problems of conformity for those manufacturers who in good faith relied on the August notice in ordering materials. Accordingly, the regulation is being amended to allow the earlier wording on an optional basis until October 1, 1973. These amendments permit use of the phrase "total load" instead of "total cargo load" in paragraph (e)(3) where it twice appears, and the legend "Aft End of Cargo Area" for "Rear End of Truck Bed" in Figure 1, Truck Loading Information. The word "rating" appearing on the last line of paragraph (e)(5) is properly "ratings" as printed in the August notice, and a correction is made. Further, the NHTSA considers it important that a manufacturer fulfill the requirements of § 575.6(b) by making information available to prospective purchasers when trucks manufactured on or after April 1, 1973 are placed on sale. Considering the short lead time between December 14, 1972 and February 1, 1973 and the intervening holidays, the NHTSA will not take enforcement action with respect to the furnishing of information under §§ 575.103 and 575.6(c) prior to April 1, 1973, if manufacturers provide information to this agency as required by those sections not later than the date by which the information must be provided to prospective purchasers.

2. *Administrative Procedure Act.* Harvester believes that the Administrative Procedure Act was violated in that interested persons were not provided an opportunity to comment upon providing information under Part 575 prior to enactment of § 575.103. The NHTSA views Harvester's comment as a narrow construction of the requirements of the Act, and disagrees with petitioner's conclusion. The content of § 575.103 was proposed on April 9, 1971 (36 F.R. 6837) and adopted as a safety standard on August 15, 1972 (37 F.R. 16497). Pursuant to petitions for reconsideration from Chrysler Corporation, Ford Motor Company, General Motors, Jeep Corporation, and Motor Vehicle Manufacturers' Association that Standard No. 126 would be more appropriate as a consumer information regulation, the NHTSA adopted § 575.103 on December 14, 1972 with content virtually identical to that issued in the previous August. Thus the agency considers it has met 5 USC § 553 by providing notice of the terms and substance of the rule, and an opportunity to comment. It is true that notice was not provided on the specific issue that distinguishes the consumer information regulation from a motor vehicle safety standard (*i.e.*, availability of information to a prospective purchaser and the agency at specified time periods), but the NHTSA considers this issue a minor one in relation to the regulation as a whole for which adequate notice was given. In view of the weight of comment that the standard should properly be a consumer information regulation, no further notice was deemed necessary. The NHTSA has

already in this notice indicated its willingness to liberally interpret § 575.6(c) because of the time factor involved.

3. *Clarification.* Ford Motor Company has asked for a clarification of the term "weight of occupants" used to compute "cargo weight rating", as defined by the regulation. Specifically, Ford inquires whether the weight is that of a 95th percentile male—that of an "occupant" as defined by § 571.3(b)—or that of a person weighing 150 pounds, the figure applicable to other consumer information regulations and used in the safety standards.

The NHTSA intended "weight of occupants" to be the "normal occupant weight" figure of 150 pounds specified in Motor Vehicle Safety Standard No. 110 rather than that of a 95th percentile male, which is greater. To clarify this, the phrase, "computed as 150 pounds times the number of designated seating positions," is added to the regulation.

In consideration of the foregoing, 49 CFR § 575.103, *Truck-camper loading*, is amended . . .

Effective date: April 1, 1973.

(Sec. 112 and 119, Pub. L. 89-563; 80 Stat. 718, 15 USC 1401, and 1407; delegation of authority at 49 CFR 1.51.)

Issued on February 12, 1973.

Douglas W. Toms
Administrator

38 F.R. 4400
February 14, 1973

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Subpart A—General

(Docket No. 73-5; Notice 1)

This notice amends the definition section of the regulation on Federal motor vehicle consumer information reflecting previous amendments to definitions in the Federal motor vehicle safety standards.

The definitions of "brake power unit" and "lightly loaded vehicle weight" in 49 CFR § 575.2(c) have been obsoleted by recent amendments to these terms in Motor Vehicle Safety Standard No. 105a, *Hydraulic Brake Systems* (37 F.R. 17970). "Brake power unit" has been redefined to more accurately describe the characteristics of the component concerned. The term "curb weight" used in defining "lightly loaded vehicle weight" has been replaced by "unloaded vehicle weight" (as defined in § 571.3) as a more precise description of vehicle condition. Finally, "Maximum sustained vehicle speed"

should be grammatically a speed "attainable" rather than "obtainable".

Effective date: February 28, 1973. Since these amendments are primarily a matter of form and have no significant effect on substantive requirements, it is found for good cause that notice and public procedure thereon is unnecessary, and an immediate effective date is in the public interest.

(Sec. 112, 119 Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1401, 1407; delegation of authority at 49 CFR 1.51.)

Issued on February 21, 1973.

Douglas W. Toms
Administrator

38 F.R. 5338
February 28, 1973

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Subpart A—General

(Docket 72-24; Notice 2)

This notice amends 49 CFR 575, Consumer Information, to require manufacturers to identify specially-configured vehicles not available for purchase by the general public as "special vehicles" in the information submitted to the NHTSA under § 575.6(c).

A notice of proposed rulemaking to this effect was published on November 8, 1972 (37 F.R. 23732). As noted in that proposal, inclusion of these vehicles in compilations or rankings published by this agency as consumer information serves no beneficial purpose, and could confuse the consumer.

No comments opposed the proposal. General Motors Corporation commented that the amendment should more clearly indicate that the special vehicle identification requirements only apply to the information supplied to NHTSA under § 575.6(c). The new section reflects this suggestion.

Ford Motor Company agreed with GM that the special vehicle identification is useful in information supplied to NHTSA. Ford also suggested, however, that consumer information on special vehicles need not be included at all in the

information supplied "on location" to prospective purchasers in accordance with § 575.6(b). The NHTSA does not have information at present to support or repudiate this suggestion, which is beyond the scope of the proposal. If Ford or any other person wishes to petition for rulemaking on this subject, the agency will consider it for possible future rulemaking.

In response to an implied question by Truck Body and Equipment Association, Inc., the amendment does not change the applicability of the Consumer Information regulations, as set forth in Subpart B of Part 575.

In consideration of the foregoing, 49 CFR Part 575, Consumer Information, is amended. . .

Effective date: June 11, 1973.

(Secs. 112, 119, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1401, 1407; delegation of authority at 49 CFR 1.51.)

Issued on May 1, 1973.

James E. Wilson
Acting Administrator

38 F.R. 11347
May 7, 1973

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 25, Notice 8)

This notice establishes a Consumer Information regulation on Uniform Tire Quality Grading. The notice is based on proposals published March 7, 1973 (38 F.R. 6194), and August 14, 1973 (38 F.R. 21939). An earlier proposal, published September 21, 1971 (36 F.R. 18751) was later withdrawn (April 21, 1972; 37 F.R. 7903). Comments submitted in response to these proposals have been considered in the preparation of this notice.

The regulation will require tire manufacturers and brand name owners to provide relative grading information for 13-, 14- and 15-inch tire size designations for tire traction, treadwear, and high speed performance. The respective grades will be molded into or onto the tire sidewall, contained in a label affixed to each tire, and provided for examination by prospective purchasers in a form retainable by them at each location where tires are sold. The requirements are effective with respect to passenger cars when they are equipped with new tires bearing quality grades.

Treadwear: The regulation requires each tire to be graded for treadwear performance using numbers which indicate the percentage of treadwear the tire will produce when compared to the treadwear obtained from a "control tire" specified in the regulation. Each tire will be graded with either the number "60", representing treadwear performance less than 80 percent of the control tire's, or the number "80", "120", "160" or "200", representing at least that percentage of control tire wear. The grades are fewer in number and represent broader performance ranges than those proposed, as a result of comments that the proposed grades were too numerous and would not take into account inherent differences in tire performance.

The method for obtaining treadwear grades is essentially that proposed in the notice of March 7, 1973. Treadwear grades will be determined by using a convoy of up to four identical passenger cars with one vehicle equipped with four identical control tires, and each of the remaining vehicles equipped with four identical manufacturer's tires (candidate tires) having the same nominal rim diameter as the control tire. The NHTSA intends that the convoy vehicles be driven as similarly as possible with respect to such factors as steering and braking. The vehicles are run for 16,000 miles over a surface that will produce control tire wear equal to between 65 and 85 percent of original tread depth. The proposal had suggested that the tires be worn to 90 percent of tread depth. This percentage has been reduced to prevent the tires from being worn below their treadwear indicators. The proposal had further suggested that candidate tires be loaded to 100 percent of the load specified for their inflation pressure in the 1972 Tire and Rim Association Yearbook. In response to comments that vehicles are rarely loaded to that extent in practice, the load has been changed to 90 percent of the load specified for the inflation pressure in the 1972 Tire and Rim Association Yearbook. The NHTSA believes the road test method for measuring treadwear to be the most satisfactory that is presently available. Moreover, the method has been used for many years by tire manufacturers to evaluate the treadwear potential of newly developed tire designs and compounds.

Many comments agreed that a 16,000-mile road test was appropriate for grading the treadwear of radial tires. Some comments urged, however, that only a 12,000-mile test be specified for bias and bias/belted tires. The NHTSA has

not accepted this recommendation as it believes the comparative data for candidate tires of different construction types will necessarily be more accurate if the comparisons are based on the same degree of control tire wear.

Certain comments referred to the existing national energy shortage, requesting that the agency take into account the problems presented by the shortage in the final requirements. The NHTSA recognizes the degree of energy that will be necessary to perform the appropriate grading tests, particularly with respect to the test for treadwear grading. Research has been undertaken and will continue with a view to reducing the energy needs to establish treadwear performance without adversely affecting the validity of test results. The NHTSA invites suggestions or proposals in this regard, including supportive data, directed to the establishment of alternative methods or tests for grading tire treadwear.

Traction: Each tire will bear a traction grade of "90", "105", or "120", representing at least that percentage of control tire performance. The test for obtaining traction grades is similar to that proposed on March 7, 1973. It utilizes a two-wheeled test trailer built essentially to specifications in American Society of Testing and Materials E-274-70, *Skid Resistance of Paved Surfaces Using a Full-Scale Tire*. The test consists of towing the trailer over specified wet test surfaces, equipped first with identical control tires, and then with identical candidate tires of the same rim diameter as the control tire. The average coefficient of friction is computed when one trailer wheel is locked on each of the two surfaces at 20, 40, and 60 miles per hour. The grade, similarly to the treadwear grade, is the comparative difference between candidate and control tire performance. The final rule differs from the notice in that the proposed traction grade representing less than 90 percent of control tire performance has not been included. This results from the notice proposing to amend Motor Vehicle Safety Standard No. 109 (49 CFR 571.109) (38 F.R. 31841; November 19, 1973) to require all passenger car tires to achieve at least this level of control tire performance. The NHTSA expects that this requirement will become effective on the effective date of this

regulation, thereby necessitating the deletion of the grade. The other grades specified differ from those proposed to the extent that the range between grades has been increased to better allow for inherent gradations in actual tire performance.

Many comments urged that grading for tire traction not be established at this time. The comments argued that the current state of the art has not advanced to the point where reliable and reproducible results can be obtained using the proposed two-wheel trailer method.

The NHTSA believes the traction test issued by this notice, utilizing the two-wheeled trailer, is an objective procedure, capable of producing repeatable results, and is therefore satisfactory for the purpose of measuring and grading straight-line, wet-surface braking traction. In this regard, on the basis of information received from General Motors, that company is presently using the identical methodology in the specifications for tire traction for its "TPC" specification tire. This tire is presently manufactured by numerous domestic tire companies. Moreover, grading tire traction is a necessary adjunct, in the view of NHTSA, to grading tire treadwear, for it is commonly known that treadwear and traction performance result from diverse tire properties. The two tests, therefore, serve as a check that manufacturers will not design tires that perform well in one area at the expense of performance in the other. The minimum traction performance requirement recommended by the comments as a substitute for traction grading is insufficient, in the view of NHTSA, to serve this function alone.

Many comments stated that traction test surfaces should be defined by test surface composition and skid number, rather than by skid number alone as proposed. It was argued that without a surface specification, reversals in tire performance may occur. The NHTSA agrees that the inclusion of precise surface specifications may improve the reliability of traction test results. It has not adopted such specifications in this notice as they have not been previously proposed. However, recent developments have been made in the establishment of test surfaces by the Federal Highway Administration of the Department of Transportation. Test surfaces developed

by that agency are proposed in a notice issued concurrently with this notice (1061) for later inclusion in the regulation.

Some comments argued that the description of this grading parameter as "traction" was misleading, as the proposed test dealt only with wet braking traction and not dry pavement or cornering traction. They suggested therefore that the grading parameter be referred to as braking or stopping traction, or as "wet-surface traction." The NHTSA does not dispute that these other traction properties are important aspects of tire traction, and expects to add these performance aspects to the traction grading scheme when appropriate test procedures are developed. The NHTSA does not believe, however, that the description of the existing test as "traction" is misleading. The terminology suggested by the comments, in the view of NHTSA, would be over technical and unnecessary.

High speed performance: High speed performance grades of "A", "B", or "C" are required to be affixed to each tire based on its performance on the high speed laboratory test wheel which is presently used in testing for conformity to Motor Vehicle Safety Standard No. 109. The test utilized is as proposed—an extension of the Standard No. 109 high speed performance test. A tire will be graded "C" if it only passes the Standard No. 109 test. In order to achieve a grade of "B", the tire must run without failure an additional ½ hour at 425 rpm and two additional hours, one at 450 rpm and the other at 475 rpm. To achieve a grade of "A" the tire must be run without failure an additional hour at 500 rpm and another hour at 525 rpm. The NHTSA has recently revised the criteria for tire failure in Standard No. 109 (38 F.R. 27050; September 28, 1973) and the revised criteria are the criteria included in this rule.

The principal comment regarding the proposed high speed grading format was that it should consist of only two grades—one recommended for general use and the other for use by emergency vehicles. The comments argued that further grading of high speed performance was unnecessary and would promote high speed driving. The NHTSA views the suggested 2-grade scheme as rendering any high speed grade meaningless for most consumers. Essentially, it pro-

vides no information other than conformity to Standard No. 109. The NHTSA believes driving habits with respect to speed do differ among the driving population and that the grading scheme should be based on that consideration.

Control Tires: Both treadwear and traction grades are based on comparative results using a control tire specified in the rule. The control tires are 2-ply, rayon tires of bias construction, in sizes 6.50 x 13, 7.75 x 14, and 8.55 x 15. The control tire in each specified rim diameter will be used in testing all candidate tires having that rim diameter. The precise specifications for the tires are identical to those proposed.

Control tires will be manufactured pursuant to NHTSA contract and will be used in NHTSA compliance testing. They will be made available to the industry for testing purposes, and the NHTSA will accept, for purposes of compliance tests, results based upon their performance. The agency may consider manufacturers who use different test devices to have failed to exercise the due care contemplated by the National Traffic and Motor Vehicle Safety Act should their tires fail to perform to the specified grades when subject to agency tests.

The final rule modifies certain aspects of the proposed rule apart from the grading tests. In response to several comments, labels are not required to be affixed to the tread surface of tires which are furnished as original equipment on new vehicles. These vehicles are generally driven before sale, and labels on the tire tread surface are therefore of questionable value. Information on these tires will still be required to be otherwise furnished with the vehicle, and available for retention by prospective purchasers. The NHTSA did not, however, agree with comments recommending that the affixed label requirement be deleted entirely. Tires are frequently on display in sales outlets, and the affixed label will provide consumers with the clearest understanding of the grades applicable to a particular tire.

The grades molded onto the tire sidewall are required to be placed between the shoulder and the maximum section width, rather than between the maximum section width and the bead as proposed. The NHTSA believes the grades should apply only to the original tire, and the placement of grades above the maximum section width

increases the likelihood that grades will be removed if the tire is retreaded.

Certain comments expressed the view that providing information for tires placed on new vehicles and furnishing that information to the NHTSA 30 days before the vehicles are available to the public is difficult to accomplish because of the variety of tire and vehicle combinations involved. The NHTSA does not believe sufficient justification has been shown for deleting these requirements. While some modification may be necessary to existing manufacturer practices, the NHTSA cannot agree that the regulation presents unmanageable problems for manufacturers.

Effective date: September 1, 1974. The NHTSA has issued this notice pursuant to an order of the United States District Court for the

District of Columbia. That order specifies that the regulation take effect on September 1, 1974.

In light of the above, sections 575.4 and 575.6 are revised, and a new section 575.104 "Uniform Tire Quality Grading", is added in Chapter V, Title 49, Code of Federal Regulations. . . .

(Secs. 103, 112, 119, 201, 203; Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1407, 1421, 1423; delegation of authority at 49 CFR 1.51.)

Issued on December 28, 1973.

James B. Gregory
Administrator

39 F.R. 1037
January 4, 1974

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION REQUIREMENTS**(Docket No. 25; Notice 11)**

This notice revokes the Uniform Tire Quality Grading regulation published January 4, 1974 (39 F.R. 1037), and responds to petitions for reconsideration received with respect to the regulation.

The Uniform Tire Quality Grading regulation specified the use of "control tires" in the establishment of grades for treadwear and traction. The NHTSA expected that control tires would be manufactured by an industry source pursuant to NHTSA contract, and would be available for both industry and government use. A solicitation for a proposal to manufacture control tires was advertised to the domestic tire industry. Two proposals were received. Each, however, has been determined to be nonresponsive to the solicitation, which has accordingly been cancelled.

Due to the failure of NHTSA to procure a control tire, the agency must revoke the Uniform Tire Quality Grading regulation in its present form. The revocation of the regulation renders moot the petitions for reconsideration received.

On May 2, 1974, an order was entered by the United States District Court for the District of Columbia in the case of *Nash v. Brinegar* (Civil Action No. 177-73) requiring the NHTSA to issue, by June 15, 1974, a notice of proposed rulemaking for a revised Uniform Tire Quality Grading regulation having a proposed effective date of May 1, 1975.

In light of the above, § 575.104 "Uniform Tire Quality Grading" of Chapter V, Title 49, Code of Federal Regulations, is revoked, effective

(Secs. 103, 112, 119, 201, 203; Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1407, 1421, 1423; delegation of authority at 49 CFR 1.51.)

Issued on May 6, 1974.

Gene G. Mannella
Acting Administrator

39 F.R. 16469
May 9, 1974

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 74-18; Notice 2)

This notice amends Part 575, Consumer Information, so that the requirement that manufacturers have consumer information available in showrooms does not apply to special vehicles not available to the general public.

On April 26, 1974, the National Highway Traffic Safety Administration proposed to amend Part 575 to provide consumers with information for only those vehicles which they were eligible to purchase (39 F.R. 14728). The proposal, which was in response to a petition from Ford Motor Company, stated that information concerning special vehicles would continue to be made available to eligible purchasers. Comments concerning the proposal were received from American Motors Corporation, General

Motors Corporation and Chrysler Corporation. All comments favored the proposal.

In consideration of the foregoing, 49 CFR 575.7 is amended. . . .

Effective date: March 13, 1975. Because the amendment relieves a restriction, it is found for good cause shown that an effective date immediately upon publication is in the public interest.

(Secs. 103, 112, 114, 203, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1392, 1401, 1407, 1423; delegation of authority at 49 CFR 1.51.)

Issued on March 7, 1975.

Noel C. Bufe
Acting Administrator

40 F.R. 11727
March 13, 1975

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 25; Notice 17)

This notice establishes Uniform Tire Quality Grading Standards. The notice is based on proposals published June 14, 1974 (39 F.R. 20808, Notice 12), August 9, 1974 (39 F.R. 28644, Notice 14), and January 7, 1975 (40 F.R. 1273, Notice 15). Comments submitted in response to these proposals have been considered in the preparation of this notice.

A rule on this subject was issued on January 4, 1974 (39 F.R. 1037). It was revoked on May 9, 1974 (39 F.R. 16469), due to the inability of the NHTSA to obtain from the tire industry "control tires" which were to have been used as the basis for determining the comparative performance grades for treadwear and traction.

The rule issued today requires manufacturers to provide grading information for new passenger car tires in each of the following performance areas: treadwear, traction, and temperature resistance. The respective grades are to be molded into or onto the tire sidewall, contained in a label affixed to each tire (except for OEM tires), and provided for examination by prospective purchasers in a form retainable by them at each location where tires are sold.

TREADWEAR

Treadwear grades are based on a tire's projected mileage (the distance which it is expected to travel before wearing down to its treadwear indicators) as tested on a single, predetermined test run of approximately 6400 miles. A tire's treadwear grade is expressed as the percentage which its projected mileage represents of a nominal 30,000 miles, rounded off to the nearest lower 10% increment. For example, a tire with a projected mileage of 24,000 would be graded "80", while one with a projected mileage of 40,000 would be graded "130".

The test course has been established by the NHTSA in the vicinity of San Angelo, Texas, as described in Appendix A. It is the same as that discussed at the public briefings on this subject which took place July 23 and July 29, 1974, except that the direction of travel has been reversed on the northwest loop to increase safety by reducing the number left turns. The course is approximately 400 miles long, and each treadwear test will require 16 circuits. It is anticipated that both the industry, at each manufacturer's option, and the agency will perform treadwear tests on this course; the former for establishing grades, and the latter for purposes of compliance testing, i.e., testing the validity of the grades assigned. To arrange for allocations of test time at the site, industry members should contact the NHTSA facility manager, P.O. Box 6591, Goodfellow Air Force Base, San Angelo, Texas 76901; telephone (915) 655-0546. While manufacturers are not required to test on the site, it would be to their advantage to do so, since the legal standard against which compliance with the rule will be measured is a tire's performance in government tests on that course.

The method of determining projected mileages is essentially that proposed in Notice 12 as modified by Notices 14 and 15 in this docket. The treadwear performance of a candidate tire is measured along with that of course monitoring tires (CMTs) if the same general construction type (bias, bias-belted, or radial) used to monitor changes in course severity. The CMTs are tires procured by the NHTSA—one group each of the three general types—which are made available by the agency for purchase and use by regulated persons at the test site. To obtain course monitoring tires, regulated persons should contact the NHTSA facility manager at the above address.

Effective: January 1, 1976

July 1, 1976

January 1, 1977

July 1, 1977

Each test convoy consists of one car equipped with four CMTs and three or fewer other cars equipped with candidate tires of the same construction type. (Candidate tires on the same axle are identical, but front tires on a test vehicle may differ from rear tires as long as all four are of the same size designation.) After a two-circuit break-in period, the initial tread depth of each tire is determined by averaging the depth measured at six equally spaced locations in each groove. At the end of every two circuits (800 miles), each tire's tread depth is measured again in the same way, the tires are rotated, vehicle positions in the convoy are rotated, and wheel alignments are readjusted if necessary. At the end of the 16-circuit test, each tire's overall wear rate is calculated from the nine measured tread depths and their corresponding mileages-after-break-in as follows: The regression line which "best fits" these data points is determined by applying the method of least squares as described in Appendix C; the wear rate is defined as the absolute value of the slope of the regression line, in mils of tread depth per 1000 miles. This wear rate is adjusted for changes in course severity by a multiplier consisting of the base wear rate for that type of course monitoring tire divided by the measured average of the wear rates for the four CMTs in that convoy. A candidate tire's tread depth after break-in (minus 62 mils to account for wearout when the treadwear indicators are reached) divided by its adjusted wear rate and multiplied by 1000, plus 800 miles, yields its projected mileage. The projected mileage is divided by 30,000 and multiplied by 100 to determine the percentage which, when rounded off, represents the candidate tire's treadwear grade.

A discussion of the NHTSA response to the comments on treadwear grading follows.

Duration of break-in period and test. The 400 mile break-in period originally proposed in Notice 12 was extended in Notice 15 to 800 miles, to permit the rotation of each tire between axles after 400 miles. The Rubber Manufacturers Association (RMA) suggested that a 1600-mile break-in, by permitting each tire to be rotated

once through each position on the test car, would provide more reliable results. An analysis of variance in a study conducted by the NHTSA showed no significant variations in wear from one side of a car to the other. Further, a review of data from extensive testing on the San Angelo course showed no anomalies or consistent variations in wear rate occurring after the first 800 miles. The NHTSA is convinced that the 800-mile break-in period is sufficient to allow a tire to establish its equilibrium inflated shape and stabilize its wear rate. Therefore, the RMA suggestion has not been adopted.

Many of the comments to Notice 12 suggested that testing distances greater than 6400 miles are necessary for accurate tread life projections. Testing to 40%, 50%, and even 90% of wearout was urged. Unfortunately, only the submission of North American Dunlop was accompanied by substantive data. These data, showing non-linear wear rates, were of questionable validity because the tires were not broken in prior to testing and because the data were collected by different test fleets in different parts of the country. Nonetheless, as a result of the large number of adverse comments, the NHTSA requested further information from all knowledgeable and concerned parties to document and substantiate the position that a longer treadwear test is necessary. The additional data were requested in a written inquiry to the RMA and in Notice 15. Because of the need to limit test time, test cost, and fuel consumption, the objective was to determine the minimum test distance which can reliably predict ultimate tire treadwear life.

The responses to these requests have been reviewed and analyzed. Again, the NHTSA finds the industry data and conclusions that greater testing distances are necessary lacking in rigor and completeness. In most cases, the conditions of the industry tests were not disclosed or did not coincide with the prescribed control procedures. Serious doubt is cast upon the conclusions because of inadequate information on one or more of the following test conditions: changes in weather and season, course severity, conformity with prescribed break-in period, mileage between

readings, method of projected mileage, size of convoy, number of tires tested, and uniformity and frequency of tread depth measurement.

A controlled test program recently completed by the NHTSA was designed to test the hypothesis that the rate of wear of tires is constant after an 800-mile break-in. The design and conclusions of the test are discussed in detail in a paper by Brenner, Scheiner, and Kondo ("Uniform Tire Quality Grading; Effect of Status of Wear on Tire Wear Rate," *NHTSA Technical Note T-1014*, March, 1975—General Reference entry no. 42 in this docket.) The general conclusions of the test are: (1) that the inherent rate of wear of tires, after an 800 mile break-in period, is constant and (2) that the projected tread life for a tire estimated from a 6,400-mile test after 800-mile break-in is accurate for all three tire types. Accordingly, the 6,400 mile test period has been retained.

Grading based on minimum performance. The RMA expressed strong disagreement with any system in which treadwear grades are based on a tire line's *minimum* projected mileage on the San Angelo test course, urging instead that the average performance of a line is a more appropriate grade. The RMA suggested further that the proposed grading system "ignores the bell-shaped distribution curve which describes any performance characteristics and would require the downgrading of an entire line of tires until no portion of the distribution curve fell below any selected treadwear grade, notwithstanding that the large bulk of a given group of tires was well above the grade."

The NHTSA rejects the arguments and the position taken by the industry on this issue. It is precisely the fact that, in industrial processes involving production of large numbers of items, the products group themselves into the so-called bell-shaped or normal distribution which allows for measurement of central tendency and variation and forms the basis of scientific quality control.

Tests performed by the NHTSA and described in the paper cited above have shown conclusively that different production tires exhibit considerable

differences in their variability about their respective average values. Thus, two different tire brands might have identical average values for treadwear, but differ markedly in their variance or standard deviation. These differences would probably be attributable to differences in process and quality control.

Recognition of differences in inherent variability among tire manufacturers and tire lines is of the utmost importance to the consumer. The average or mean measure of a group of tires does not provide sufficient information to enable the consumer to make an informed choice. If one tire on a user's car wears out in 10,000 miles, the fact that the "average" tire of that type wears to 25,000 miles in the same driving environment does not alter his need to purchase a new tire. Ideally, the consumer might be provided with more information if he were given a measure of the mean (central tendency) and standard deviation (variability) for each tire type, but the complexity and possible confusion generated by such a system would negate its advantages. In the NHTSA's judgment, the most valuable single grade for the consumer is one corresponding to a level of performance which he can be reasonably certain is exceeded by the universe population for that tire brand and line.

As with the other consumer information regulations issued by this agency, a grade represents a minimum performance figure to which every tire is expected to conform if tested by the government under the procedures set forth in the rule. Thus, any manufacturer in doubt about the performance capabilities of a line of his tires is free to assign a lower grade than what might actually be achieved, and he is expected to ensure that substantially all the tires marked with a particular grade are capable of achieving it.

Homogeneity of course monitoring tires. Another aspect of the Notice 12 proposal which generated much controversy is the adoption by the NHTSA of production tires for use as course monitoring tires. The commenters suggested that changes in course severity be monitored instead by tires manufactured under rigidly specified conditions to ensure homogeneity. Because varia-

tions in the performance of course monitoring tires are reflected in treadwear projections for all candidate tires, it follows that the more homogeneous the universe of the monitoring tires, the more precisely the performance of the candidate tires can be graded. The NHTSA is in complete accord with the industry's desire to minimize the variability of tires chosen for course monitoring. The development of specifications for special "control tires", in which materials, processing, and other conditions are rigidly controlled to a degree beyond that possible for mass production, will continue. The NHTSA hopes to work with the tire industry to reduce the variability of course monitoring tires to the maximum extent possible. However, it should be noted that an earlier version of this regulation had to be revoked due to the difficulty in obtaining such "control tires." Recent tests (summarized in the paper cited above) demonstrate that implementation of a viable treadwear grading system need not be delayed further, pending development of special tires. In these tests, the current radial CMTs—Goodyear Custom Steelgards chosen from a single, short production run—show a coefficient of variation (standard deviation of wear rate divided by mean) of 4.9%. This degree of uniformity is commensurate with universally accepted criteria for test control purposes. Hence, grading of radial tires may be started immediately. The tentatively adopted bias and bias-belted CMTs showed coefficients of variation of 7.3% and 12.4%, respectively. Existing test data indicate that the NHTSA will be able to identify and procure other tires of these two construction types, exhibiting homogeneity comparable to the current radial CMTs, in time for testing in accordance with the implementation schedule set out below. In any event, the variability of course monitoring tires will be taken into account by the NHTSA in connection with its compliance testing. At worst, the degree of grading imprecision associated with CMT variability will be no greater than one-half the levels measured for the current bias and bias-belted tire lots, because the standard deviation for the average of a set of four tires is equal to one-half that of the universe

standard deviation. It is the NHTSA's judgment that treadwear grades of this level of precision will provide substantially more meaningful information to the prospective tire buyer than is currently available.

To make efficient use of the available CMTs, the NHTSA expects to conduct treadwear tests with used CMTs, as well as with new ones. This will not affect any mileage projections, because the inherent wear rate of tires is constant after break-in. Test results will be discarded if the treadwear indicators are showing on any of the CMTs at the end of a test.

The need for three separate course monitoring tires. Many commenters suggested that a single CMT of the bias-ply type be used, arguing that the use of a different CMT for each general construction type would create three separate treadwear rating systems. These suggestions appear to result from a misunderstanding of the role of the course monitoring tires. They are not used as yardsticks against which candidate tires are graded. Instead, they are used to monitor changes in the severity of the test course. Experiments performed by the NHTSA (Brenner, F.C. and Kondo, A., "Elements in the Road Evaluation of Tire Wear", *Tire Science and Technology*, Vol. I, No. 1, Feb. 1973, p. 17—General Reference entry no. 17 in this docket) show that changes in test course severity will affect tires of differing construction types to differing degrees. For example, the improvement in projected tread life from the severest to the mildest test courses in the experiments was 12% for bias tires, yet it was 91% for bias-belted tires and 140% for radial tires. In fact, a variety of factors influence course severity, each having different relative effects on the various tire types. Therefore, the use of a single course monitoring tire on courses of varying severity, or even on a given course whose severity is subject to variation due to weather and road wear, would not permit the correct adjustment of measured wear rates for environmental influences. Only with a CMT for each construction type can a single, uniform treadwear grading system be established.

Expression of treadwear grades. The system of treadwear grading proposed in Notice 12 specified six grades, as follows:

Grade X (projected mileage less than 15,000)	
Grade 15 (projected mileage at least 15,000)	
Grade 25 (" " " " 25,000)	
Grade 35 (" " " " 35,000)	
Grade 45 (" " " " 45,000)	
Grade 60 (" " " " 60,000)	

Among the objections to this proposal was that small differences in actual treadwear in the vicinity of grade boundaries would be misrepresented as large differences because of the breadth of the predetermined categories. The NHTSA was also concerned that the broad categories could in some cases reduce the desirable competitive impact of the treadwear grading system if tires of substantially differing treadwear performance were grouped in the same grade. For these reasons, a relatively continuous grading system was proposed in Notice 15, in which tires would be graded with two digit numbers representing their minimum projected mileages in thousands of miles as determined on the San Angelo test course. The major objection to both of these proposals was that grades expressing projected mileages would lead consumers to expect every tire to yield its indicated mileage. The manufacturers were especially concerned that this would subject them to implied warranty obligations, despite the disclaimer on the label. The NHTSA remains convinced that treadwear grades which are directly related to projected mileages are the most appropriate way of expressing treadwear performance. To overcome any possible misinterpretation by consumers, the grading system established today is changed from that of Notice 15 to indicate relative performance on a percentage basis, as described above. This decision is based in part upon the fact that testing performed to date on the San Angelo course has given projected mileages that are generally higher than those the average user will obtain; i.e., it appears to be a relatively mild course.

Wheel alignment procedure. Test vehicle wheel alignment procedures received considerable comment. Notice 12 proposed alignment to vehicle manufacturer's specifications after vehicle loading. Notice 15 proposed that this be done before loading, and that the measurements taken after loading be used as a basis for setting alignment for the duration of the test. The majority of the commenters strongly favored a return to the original procedure. The NHTSA takes particular cognizance of the fact that those commenters who have actually tried both procedures in testing at San Angelo find the procedure of Notice 12 to be satisfactory and practicable, and that of Notice 15 to be unusable. NHTSA representatives at San Angelo have reported satisfactory operation on a variety of vehicles using the originally proposed procedure, and have not observed any uneven tire wear that would indicate alignment problems. For these reasons, the final rule prescribes alignment procedures which are identical with those proposed in Notice 12.

Tire rotation procedure. Several commenters objected to using the proposed "X" rotation procedure for testing radial tires. The NHTSA is aware that this procedure differs from that recommended by many groups for consumers' use. While some vehicle and tire manufacturers recommend that radial tires be rotated only fore-aft, others recommend no rotation at all and yet others are silent on the subject. The primary reason for these other methods appears to be to improve passenger comfort by reducing vibration. No data have been submitted, however, to suggest that the proposed method has any adverse or uneven effect on radial tire wear. Further, this method has the advantage, for treadwear testing, of balancing out any side-to-side or axle wear differences attributable to the vehicle or to the course. Accordingly, the proposed tire rotation method has been adopted without change.

Choice of grooves to be measured. Some commenters suggested that treadwear projections be calculated from measurements of the most worn grooves on candidate tires, rather than from the averages of measurements made in all grooves.

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It was argued that, because many States require replacement of passenger car tires when treadwear indicators appear in any two adjacent grooves, the proposed method of calculation would yield misleadingly high projections. Analysis of projections based on both methods (Brenner, F.C. and Kondo, A., "Patterns of Tread Wear and Estimated Tread Life," *Tire Science and Technology*, Vol. 2, No. 1, 1973—General Reference entry no. 27 in this docket) shows a high correlation between the resulting tire rankings. Because the treadwear grading system established today is based on relative performance, there is no disadvantage in adopting the proposed method. On a related issue, the E.T.R.T.O. pointed out that some grooves near the tire shoulder which are designed only for esthetic reasons exhibit practically no wear, and suggested that measurements be made only in those grooves which contain treadwear indicators. This suggestion has been adopted.

Calculation of projected mileage. Several methods for calculating the tire wear rates to be used in determining projected mileages were considered. Notice 12 proposed calculating the geometric mean of the wear rates measured for each 800-mile increment. This approach was rejected because the geometric mean is extremely sensitive to inaccurate readings in any single measurement. Use of the arithmetic mean of the incremental wear rates appears to be the general industry practice. Unfortunately, however, the intermediate readings have no effect on such a calculation, because the result is a function only of the initial tread depth (after break-in) and that measured 6,400 miles later. Therefore, a wear rate calculated by the industry method is extremely sensitive to errors in these two measurements. In Notice 15, the NHTSA proposed that wear rate be calculated by the least-squares regression method, as described above. This approach has the advantage of weighting all measurements and minimizing the effect of inaccurate readings, so it has been adopted.

Differing tires on a single test vehicle. Uniroyal and the E.T.R.T.O. argued that each test convoy vehicle should be equipped with four identical tires; the reason given was that otherwise, the performance of a candidate tire would be a function of the tires chosen by the NHTSA for use on the other axle of the test vehicle during compliance testing. The NHTSA is unaware of any data that support this position. The rule adopted today requires that all vehicles in a single convoy be equipped with tires of the same general construction type, and that all tires on a single vehicle be of the same size designation. In extensive testing at San Angelo with this procedure, none of the suggested undesirable variations has been observed.

Differing test vehicles in a single convoy. Several commenters suggested that the rule specify that all vehicles in a given convoy be identical, to reduce variations in projected treadlife. The NHTSA is in complete agreement with the premise that those variables which can be identified and which can affect treadwear results should be controlled as closely as is feasible. Variations in vehicle type, however, do not appear to produce significant variations in treadwear projections. Nevertheless, to minimize such variations, tires will be tested for compliance only on vehicles for which they are available as original equipment or recommended replacement options. Where practical, all vehicles in a given convoy will be of the same make. However, to test tires designed for the range of wheel sizes available, the suggested method would require a proliferation of course monitoring tires, one for each combination of wheel size and construction type. Therefore, the suggestion has not been adopted.

Accuracy of tread depth measurements. The RMA suggested that the interval between measurements be increased to 1,600 miles to reduce the effects of measurement error. However, if this interval were used instead of 800 miles, only five readings would be obtained in the 6,400 mile treadwear test, so errors in any one reading would result in a greater overall error. A recently completed study (Kondo, A. and Brenner,

F.C., "Report on Round-Robin Groove Depth Measuring Experiment," *NHTSA Technical Note T-1012*, March 1975—General Reference entry no. 44 in this docket) shows that variations among measurements of the same tread depth by different operators do not present a serious problem. The study found that the only significant variations in measurement results occur as a result of differences in measuring techniques between different laboratories. Since these techniques are consistent within a given laboratory, the different laboratories arrive at the same results in terms of the slope of the tread depth regression line that is the basis of the treadwear grade.

TRACTION

Traction grades are based on a tire's traction coefficient as measured on two wet skid pads, one of asphalt and one of concrete. Because a method for producing identical skid test surfaces at different sites has not yet been developed, the NHTSA has established two skid pads, described in Appendix B, near the treadwear test course in San Angelo. These pads represent typical highway surfaces. The asphalt surface has a traction coefficient, when tested wet using the American Society for Testing and Materials (ASTM) E 501 tire, of 0.50 ± 0.10 . The concrete surface was described in Notice 12 as having a traction coefficient, when similarly tested, of 0.47 ± 0.05 . Due to surface polishing, this coefficient has declined and stabilized at 0.35 ± 0.10 . As with the treadwear course, these pads are available for use by manufacturers as well as the agency. For allocations of test time, industry members should contact the NHTSA facility manager at the above address.

Before each candidate tire test, the traction coefficient of each surface is measured with two ASTM tires to monitor variations in the surface, using a two-wheeled test trailer built in accordance with ASTM Method E-274-70. The candidate tire's traction coefficient is similarly measured on each surface, and then adjusted by adding a fixed coefficient (0.50 for asphalt, 0.35

for concrete) and subtracting the average coefficient obtained from measurements with the two ASTM tires.

The tire industry's major objection to the proposed rule was that, with four possible grades for traction, two tires might be graded differently without a meaningful difference in their performance. The RMA suggested a scheme with two grade categories above a minimum requirement. The rule issued today, by setting two threshold levels of performance, establishes three grades: "0", for performance below the first threshold; "**", for performance above the first threshold; and "***", for performance above the second threshold. The NHTSA is convinced that the grades thus defined reflect significant differences in traction performance.

Firestone suggested that further testing may demonstrate that only one pad is necessary to give the best and most consistently repeatable results. However, the ranking of a group of tires based on their performance on one surface can differ from their ranking on another surface. In fact, one tire manufacturer suggested that an additional surface of low coefficient be included in the testing scheme for this reason. The NHTSA agrees that an additional surface may increase the utility of the traction grading system, and anticipates a proposal to implement this suggestion in the future.

The suggestion of Pirelli, that measurements be made during the period between 0.5 and 1.5 seconds after wheel lockup instead of the period between 0.2 and 1.2 seconds, has been adopted. To permit more efficient use of the skid pads, the rule specifies a test sequence which differs slightly from that originally proposed: instead of being tested repeatedly on the asphalt pad and then repeatedly on the concrete pad, each tire is run alternately over the two pads. A change in paragraph (f) (2) (i) (A) permits tires to be conditioned on the test trailer as an alternative to conditioning on a passenger car. Another change facilitates the use of trailers with instrumentation on only one side, which had been inadvertently precluded by the wording of the proposed rule.

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TEMPERATURE RESISTANCE

The major objection to the proposed high speed performance grading scheme was that it was neither necessary nor beneficial to the consumer. Several commenters pointed out that Standard No. 109 specifies testing a tire against a laboratory wheel at a speed corresponding to 85 mph, and argued that certification of a tire to this minimum requirement provides the consumer with adequate information about its performance at all expected driving speeds. They suggested that only one higher grade be established, for tires designed to be used on emergency vehicles. Some commenters indicated that, as proposed, the rule seemed to condone or even encourage the unsafe operation of motor vehicles above legal speed limits. To preclude this misinterpretation, the third tire characteristic to be graded has been renamed "temperature resistance". The grade is indicative of the running temperature of the tire. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. Therefore, the distinctions provided by three grades of temperature resistance are meaningful to the consumer. Except for the name change, this aspect of quality grading has been adopted as proposed. A grade of "C" corresponds to the minimum requirements of Standard No. 109. "B" indicates completion of the 500 rpm test stage specified in paragraph (g)(9), while "A" indicates completion of the 575 rpm test range.

PROVISION OF GRADING INFORMATION

Several commenters objected to the proposed tread label requirement, suggesting that point-of-sale material such as posters and leaflets could provide the consumer with adequate information about tire grades. For the reasons discussed in Notice 12, the NHTSA is convinced that labels affixed to the tread of the tire are the only satisfactory method of providing complete information to replacement tire purchasers. Therefore, the scheme for transmitting quality grading information to consumers, combining sidewall mold-

ing, tread labels, and point-of-sale materials, has been adopted substantially as proposed. A change in paragraph (d)(1)(ii) clarifies the respective duties of vehicle manufacturers and tire manufacturers to provide information for prospective purchasers.

Several vehicle manufacturers requested that new vehicles not be required to be equipped with graded tires until six months after the date that tires must be graded. These commenters appear to have misunderstood the scope of the quality grading standard. The NHTSA expects that tires which comply with the standard will appear on new vehicles as inventories of ungraded tires are depleted. Part 575.6 requires of the vehicle manufacturer only that he provide the specified information to purchasers and prospective purchasers when he equips a vehicle with one or more tires manufactured after the applicable effective date of this rule.

The NHTSA has determined that an Inflationary Impact Statement is not required pursuant to Executive Order 11821. Industry cost estimates and an inflation impact review are filed in public Docket No. 25. This review includes an evaluation of the expected cost of the rule.

In consideration of the foregoing, a new § 575.104, "Uniform Tire Quality Grading Standards" is added to 49 CFR Part 575. . . .

Effective dates. For all requirements other than the molding requirement of paragraph (d)(1)(i)(A): January 1, 1976, for radial ply tires; July 1, 1976, for bias-belted tires; January 1, 1977, for bias ply tires. For paragraph (d)(1)(i)(A): July 1, 1976, for radial ply tires; January 1, 1977, for bias-belted tires; July 1, 1977, for bias-ply tires.

(Secs. 103, 112, 119, 201, 203; Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1407, 1421, 1423); delegation of authority at 49 CFR 1.51.)

Issued on May 20, 1975.

James B. Gregory
Administrator

40 F.R. 23073
May 28, 1975

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 25; Notice 18)

This notice republishes, with minor changes, paragraphs (e) (1) (v) and (f) (2) (i) (B), Figure 2, and the appendices of § 575.104, *Uniform Tire Quality Grading Standards*, which was published May 28, 1975 (40 F.R. 23073; Notice 17).

In describing the rims on which candidate tires are to be mounted, Notice 17 inadvertently referred to the Appendix to Standard No. 110. On February 6, 1975, the definition of "test rim" in Standard No. 109 was amended and the Appendix to Standard No. 110 was deleted (Docket No. 74-25; Notice 2; effective August 5, 1975). Under the new definition, a "test rim" may be any of several widths, only one of which is equal to that listed under the words "test rim width" in Table I of the Appendix to Standard No. 109. Paragraphs (e) (1) (v) and (f) (2) (i) (B) are corrected to specify the rim mounting scheme in terms of the new definition.

As Figure 2 was published in the Federal Register, the words "DOT Quality Grades" appeared as the Figure's title. In fact, the words are a part of the text which must appear on each tread label required by paragraph (d) (1) (B), and accordingly the figure is republished with the correct title.

The treadwear test course described in Appendix A is changed so that the loops are traveled in the following order: south, east, and northwest. This change is designed to increase safety by reducing the number of left turns. The table of key points and mileages is revised to reflect

the change. Corresponding changes are made in the numbers used to designate these points in the text and in Figure 3.

To prevent the bunching of test vehicles at STOP signs and thereby increase safety, the speed to which vehicles must decelerate when abreast of the direction sign is changed in Appendix A to read "20 mph".

The reference to Figure 2 in the second paragraph of Appendix B is corrected to indicate that the asphalt skid pad is depicted in Figure 4. The shading of the skid pads is corrected to correspond to the description in the text.

The first two paragraphs of Appendix C, *Method of Least Squares*, were omitted. Those paragraphs are now inserted and the graph is designated as Figure 5.

In consideration of the foregoing, paragraphs (e) (1) (v) and (f) (2) (i) (B), Figure 2, and the appendices to § 575.104 of Title 49, Code of Federal Regulations, are republished. . . .

(Secs. 103, 112, 119, 201, 203; Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1407, 1421, 1423); delegation of authority at 49 CFR 1.51.)

Issued on June 25, 1975.

James B. Gregory
Administrator

40 F.R. 28071
July 3, 1975

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 75-27; Notice 2)

This notice amends Standard No. 105-75, *Hydraulic Brake Systems*, 49 CFR 571.105-75, to revise the parking brake test procedure (S7.7). In addition, this notice amends Subpart B of Part 575, *Consumer Information*, 49 CFR § 575.101, by replacing the present test procedures in that section for passenger car testing with equivalent procedures from Standard No. 105-75.

The NHTSA proposed a modification of the parking brake test procedures in Standard No. 105-75 to permit a reapplication of the parking brake if the first application of the brake failed to hold the vehicle stationary on the test incline. Toyo Kogyo requested the modification as representative of normal driver action (in cases where the application appears to be insufficient to hold the vehicle), justifying the change as necessary to permit new vehicle components to stretch or "set" during the initial application as occurs in any vehicle delivered to a purchaser. The NHTSA agreed that reapplication would be a reasonable test procedure and proposed a revision of S7.7.

Comments were received from Toyo Kogyo, General Motors, American Motors Corporation, and Chrysler Corporation in support of the change. No comments were received that objected to the proposal. The standard is amended accordingly.

The NHTSA also proposed that the consumer information item requiring publication of the stopping ability of passenger cars and motorcycles (49 CFR § 575.101) be modified for passenger cars so that test data developed under Standard No. 105-75 could be the basis for the required consumer information. The existing test procedures of the consumer information item would be replaced by Standard No. 105-75 test procedures, and a transition period until Jan-

uary 1, 1977, would be provided to allow manufacturers latitude in adopting the new procedures.

The Motor Vehicle Manufacturers Association (MVMA), Chrysler Corporation, American Motors Corporation, Ford Motor Company, and General Motors Corporation supported the modifications. The MVMA and Ford pointed out an inadvertent omission in the proposal of a required change in the present loading specification (maximum loaded vehicle weight) to the Standard No. 105-75 loading specification (gross vehicle weight rating (GVWR)). No comments opposed the modification, and the consumer information item is therefore amended as proposed, with the additional modification noted by the MVMA and Ford. The transition period for use of either loading specification conforms to the transition period for use of either test procedure (until January 1, 1977). The MVMA asked for a June 1, 1977, date for transition to the new loading specification but did not explain the need for more time. The NHTSA will consider any data on this subject submitted by the MVMA.

With regard to test loading, Chrysler Corporation repeated a request for revision of the loading conditions of Standard No. 105-75. The request was earlier submitted improperly as a petition for reconsideration of an NHTSA action which did not deal with test loading (40 F.R. 24525, June 9, 1975). Section 553.35 of NHTSA regulations (49 CFR 553.35) allows petitions for reconsideration of rules issued by the NHTSA, but in this case no rule was issued on test loading that could form the basis for reconsideration. The NHTSA discussed Chrysler's request at a meeting with Chrysler officials on August 21, 1975. Based on the limited information presented by Chrysler at that meeting, the

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NHTSA has concluded that a reduction in test weight would not be justified. At the meeting it was agreed that Chrysler would submit any additional data it had in support of the request. To date no data have been received, and the NHTSA cannot meaningfully reconsider Chrysler's request without further data.

The NHTSA also proposed modification of the means for establishing the skid number of the surface on which stopping distance tests are conducted in Standard No. 105-75, Standard No. 121, *Air Brake Systems*, Standard No. 122, *Motorcycle Brake Systems*, and the Consumer Information Item on brake performance. Comments received were not in agreement on how to accomplish the transition from the former ASTM method to the new one. The skid number proposal will therefore be treated separately at a later date so that its resolution will not delay this amendment of the parking brake and consumer information item test procedures.

In consideration of the foregoing, amendments are made in Chapter V of Title 49, Code of Federal Regulations. . . .

Effective date: January 6, 1976. Because these amendments, to the extent that they impose new substantive requirements, are made optional for an interim period, and because manufacturers must plan future testing based on the test procedures as they exist in the present standard, it is found for good cause shown that an immediate effective date is in the public interest.

(Sec. 103, 119 Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.51).

Issued on December 31, 1975.

James B. Gregory
Administrator

41 F.R. 1066
January 6, 1976

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 76-1; Notice 2)

This notice amends 49 CFR 567 and 575 to allow manufacturers an alternative method of referring purchasers to appropriate consumer information tables.

On January 22, 1976, the National Highway Traffic Safety Administration issued in the Federal Register (40 FR 3315) a notice which proposed amending 49 CFR 575, Consumer Information, and 49 CFR 567, Certification, to allow the consumer information document provided to the purchaser of a vehicle to refer the reader to the vehicle's certification label to determine which information applied to that vehicle. This information, which relates to the performance characteristics of the vehicle, is required to be made available to purchasers by 49 CFR 575.6(a). Currently, if the document containing this information also contains information relating to other vehicles, the document itself must clearly indicate which information is applicable to the vehicle purchased. The NHTSA proposal was made in response to a petition from the General Motors Corporation which suggested that the proposed alternative procedure would for some companies be a more efficient and less costly method of accomplishing the purposes of the regulation.

Comments in support of the proposal were received from General Motors Corporation, Amer-

ican Motors Corporation, Chrysler Corporation and Ford Motor Company. No comments in opposition were received.

Based on the petition of General Motors and the comments concerning the notice of proposed rulemaking, the NHTSA concludes that allowing an alternative method of designating the appropriate consumer information tables would reduce the possibility of error and lessen the cost to the manufacturer.

In consideration of the foregoing, Parts 567 and 575 of Title 49, Code of Federal Regulations, are amended. . . .

Effective date: April 1, 1976. Because the procedures established herein are optional and impose no increased burden on any party, it is found for good cause shown that an immediate effective date is in the public interest.

(Sec. 103, 112, 114, 119, Pub. L. 80-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1403, 1407); delegation of authority at 49 CFR 1.50.)

Issued on: March 26, 1976.

James B. Gregory
Administrator

41 F.R. 13923
April 1, 1976

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

(Docket No. 75-27; Notice 4)

This notice amends Standard No. 105-75, *Hydraulic Brake Systems*, and Standard No. 122, *Motorcycle Brake Systems*, to modify the means for establishing the frictional resistance of the surface on which stopping distance tests are conducted. A similar amendment is made to Part 575, *Consumer Information*, of Title 49 of the Code of Federal Regulations.

The National Highway Traffic Safety Administration (NHTSA) proposed the change in Standard No. 105-75 (49 CFR 571.105-75), Standard No. 121, *Air Brake Systems* (49 CFR 571.121), Standard No. 122 (49 CFR 571.122), and the Consumer Information Regulations (49 CFR 575.101) in response to a petition from British-Leyland Motors Limited (40 FR 45200, October 1, 1975). The existing test procedure in these regulations has specified use of the American Society for Testing and Materials (ASTM) E-274-65T procedure, using an ASTM E249 tire that is no longer manufactured.

Responses were received on the proposed ASTM change from White Motor Corporation (White), Mack Trucks, Inc. (Mack), Freightliner Corporation (Freightliner), Ford Motor Company (Ford), General Motors Corporation (GM), Chrysler Corporation (Chrysler), American Motors Corporation (AMC), and International Harvester (IH). The National Motor Vehicle Safety Advisory Council made no comment on the proposal.

Most commenters supported use of the new test procedure and tire, although they differed in recommendations for correlating the reading produced under the new procedure with that produced under the old procedure. Manufacturers are presently certifying compliance to brake standards on test surfaces with a satisfactory reading under the old procedure, and they should be able to continue testing and certifying com-

pliance on the same surface without any increase in the severity of the tests. To accomplish this transition, the correlation in readings between the procedures has been determined, and the difference is reflected in a change of the dry surface value from "skid number" 75 to "skid number" 81.

Freightliner urged postponement of any action until it could be supported by "adequate and statistically reliable test data." AMC also recommended that the NHTSA do nothing "until the industry has had sufficient time to evaluate and verify the performance of the ASTM E501 test tire on all types of surfaces."

The change in procedure is prompted by the ASTM decision to utilize a new tire in ascertaining the frictional coefficient of test surfaces. As a result the old tire is no longer manufactured and only the new tire is available for skid number measurement. Manufacturers have conducted comparative tests with the new tire to determine the correlation between the readings given by the two tires. Neither Freightliner nor AMC submitted data showing that the agency's proposal to adjust the dry surface skid number upwards is unjustified. Only Mack submitted data and it supported the NHTSA and Federal Highway Administration test data that have been placed in the docket. General Motors considered the agency's proposed upward adjustment to be the maximum desirable based on its data. International Harvester, Chrysler, and Ford supported the change in dry surface skid number without qualification, and White suggested that a skid number of 85 be utilized. The agency finds that the AMC and Freightliner requests for further delay are unjustified.

Ford and Freightliner asked that the skid number for the lower coefficient (wet) surface also be adjusted. The agency's purpose in pro-

posing the adjustment is limited to changes necessary to avoid a modification of the test surfaces or an increase in the severity of performance levels specified under the safety standards. The NHTSA earlier concluded that change of the wet surface specification was unnecessary, and no evidence has been supplied that would modify the earlier determination.

General Motors noted that an editorial change to the newer ASTM procedure does not appear in early publications of that procedure. To put all interested persons on notice of the editorial change, the NHTSA has included the change in its references to the ASTM E274-70 procedure.

Freightliner asserted that the newer procedure included modification of a formula that justified a larger upwards adjustment than that proposed by the agency. Actually, the modifications only corrected an error in the earlier formula which had no effect on the determination of frictional coefficient. Manufacturers either utilized a test trailer that obviated the need for calculations using the formula, or were aware of the error and corrected for it in their calculations. Thus the adjustment requested by Freightliner is not warranted.

In accordance with recently-enunciated Department of Transportation policy encouraging adequate analysis of the consequences of regulatory action (41 FR 16201, April 16, 1976), the agency herewith summarizes its evaluation of the economic and other consequences of this amendment on the public and private sectors, including possible loss of safety benefit. Because the new references to procedures and a test tire are expected to accord with existing practices, the amendment is judged not to have any significant impact on costs or benefits of the standards and consumer information item that are modified by the change.

Standard No. 121, *Air Brake Systems*, is presently subject to judicial review under Section 105(a) of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. Section 1394(a)). The U.S. Court of Appeals hearing the petition for review has indicated that it prefers to review the standard as it presently exists, without unnecessary amendment. To the degree possible, the agency is complying with that request and therefore, in the case of Standard No. 121, will delay the update of ASTM procedure until review is completed.

It is noted that this change in procedure for ascertaining the frictional resistance of the test surface does not invalidate data collected using the older procedure, and manufacturers can presumably certify on the basis of stopping distance tests conducted on surfaces measured by the old tire.

In consideration of the foregoing, amendments are made in Chapter V of Title 49, Code of Federal Regulations. . . .

Effective date: June 14, 1976. Because the older test tire is no longer manufactured, and because the amendment of procedure and test tire is intended only to duplicate the existing procedure and tire, this amendment creates no additional requirements for any person, and an immediate effective date is found to be in the public interest.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.50.)

Issued on June 8, 1976.

James B. Gregory
Administrator

41 F.R. 24592
June 17, 1976

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION REGULATIONS

Uniform Tire Quality Grading

(Docket No. 25; Notice 24)

Action: Final rule.

Summary: This notice announces the effective dates for implementation of a uniform tire quality grading regulation with respect to bias and bias-belted tires, as authorized by Section 203 of the National Traffic and Motor Vehicle Safety Act of 1966. This notice also responds to comments on, and makes final, proposals concerning course monitoring tires and labeling as well as to petitions for reconsideration of the rule.

Effective date: For all requirements, other than the molding requirement of paragraph (d)(1)(i)(A), the effective dates are: March 1, 1979 for bias ply tires, and September 1, 1979 for bias-belted tires.

For paragraph (d)(1)(i)(A), the molding requirement, the effective dates are: September 1, 1979 for bias ply tires, and March 1, 1980 for bias-belted tires. No effective date is established at this time for radial tires.

Addresses: Petitions for reconsideration of the tire labeling amendments should refer to the docket number and be submitted to: Room 5108, Nassif Building, 400 Seventh Street S.W., Washington, D.C. 20590.

For further information contact:

Dr. F. Cecil Brenner, Office of Automotive Ratings, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202) 426-1742.

Supplementary information: On May 28, 1975 (40 FR 23073), the NHTSA published as a final rule a regulation pertaining to Uniform Tire Quality Grading (UTQG) as authorized by the National Traffic and Motor Vehicle Safety Act of 1966 (the Act) (15 U.S.C. 1381 *et seq.*). The

purpose of this regulation is to alleviate confusion in the purchase of passenger car tires and to provide simple comparative data upon which an informed tire selection can be made by consumers. Under the regulation, tires will be graded in three areas of performance: treadwear, traction, and temperature resistance.

Implementation of the regulation was delayed pending litigation of the validity of its grading procedures. In *B.F. Goodrich et al v. Department of Transportation*, 541 F.2d 1178 (6th Cir., 1976), the court upheld for the most part the agency's approach to tire quality grading. The court remanded for further agency consideration, however, two aspects of the regulation. First, the court suggested that the NHTSA reexamine the labeling requirements of the regulation to ensure that sufficient warnings would be provided to consumers to avoid the misapplication of the label information. Second, the court remanded to the agency the matter of the selection of course monitoring tires, for the agency to complete its testing and selection of the three course monitoring tires or, if this had already been accomplished, for reopening of the record to permit a brief period of industry comment on the selections. The court upheld the rule in all other respects.

Pursuant to the remand in the *B. F. Goodrich* decision, the agency issued two proposals; one to modify labeling requirements and the other announcing the selection of the course monitoring tires. Comments were received from several manufacturers and manufacturer representatives. This notice responds to those comments.

In response to the publication of the UTQG regulation (May 28, 1975) (40 FR 23073), the agency received several petitions for reconsidera-

tion. The agency announced that these petitions would not be immediately answered owing to the ongoing litigation involving the regulation (40 FR 57806). Since the challenge to the regulation has now been disposed of by the court, this notice responds fully to those petitions for reconsideration.

I. Labeling (Notice 21).

On December 13, 1976, the NHTSA published a notice of proposed rulemaking to revise the traction and temperature resistance labeling requirements of UTQG (49 CFR 575.104). That notice was in response to the decision in the *B. F. Goodrich* case.

The petitioners in the *B. F. Goodrich* case argued that the then existing labeling requirements would be misleading in several respects pertaining to traction testing and temperature resistance. The court remanded those issues to the agency for further consideration, suggesting the addition to the labels of clarifying warnings. The agency's December 13, 1976 notice proposed warnings in accordance with the court's decision that would ensure that UTQG label information would not be misconstrued.

The NHTSA received seven comments in response to the notice of proposed rulemaking. Most of these comments favored the warnings proposed by the agency with several comments proposing minor editorial changes for clarity. The agency has altered somewhat the final version of these warnings in consideration of the comments. The Vehicle Equipment Safety Commission did not submit comments.

Treadwear Labeling

The Rubber Manufacturers Association (RMA) recommended in its comments that the agency modify the treadwear example in Figure 2 which explains that tires rated at 200 will achieve twice the mileage as tires rated at 100. RMA indicated that few if any commercially available tires could achieve such a rating. Accordingly, they suggested that the example show that a tire rated 150 would wear $1\frac{1}{2}$ times as well as a tire graded 100.

The agency considers RMA's suggestion to have merit. Initially, the 200 figure was selected for the example because it facilitates understand-

ing of the treadwear grading concept since it speaks in terms of round numbers (e.g., a tire grade 200 wears twice as well as a tire grade 100). However, since few tires can achieve such a rating, the example would have little practical application. Therefore, the agency modifies the example to reflect that 150 represents a treadlife $1\frac{1}{2}$ times as good as that represented by the grade of 100.

Traction Labeling

Goodyear Tire and Rubber Company, Firestone Tire and Rubber Company, and the RMA suggested in their comments that the NHTSA amend the traction information in Figure 2 of the label to indicate that the tires were tested under controlled conditions on specified government test surfaces. The agency believes that this information is useful to prevent misleading the consumer and amends Figure 2 accordingly.

General Motors Corporation (GM) recommended that the agency add further warnings to the traction information that would indicate that actual traction results would differ depending upon tread depth, road surface, and speed. GM contended that the proposed warning did not sufficiently detail the extent of the limitations upon the use of these traction data.

The NHTSA is concerned that the warnings printed in the tire information be kept to the absolute minimum in length while ensuring adequate consumer information. If warnings and tire information become so lengthy as to become burdensome upon the consumer to read, it is possible that the information would go unused. The agency has determined that the statement in the warning that a tire was "measured under controlled conditions on specified government test surfaces" indicates that the test results were achieved under highly specified conditions. Clearly, changes in any of the test conditions could affect the traction results. This meaning is obvious from the present wording of the warning and further elaboration would needlessly lengthen the tire information. Therefore, the agency declines to adopt GM's suggested modification.

The agency has reached the position that the clarity of the traction grading information might

be enhanced by the use of the letters A, B, and C in place of the symbols **, *, and O presently employed to denote traction grades. A proposal to modify the traction grading system by substitution of the letters A, B, and C for the present traction symbols is published concurrently with this notice in the proposed rule section of the *Federal Register*.

Temperature Resistance Labeling

Several commenters suggested that the tire temperature warning be clarified to indicate that excessive speed, underinflation, or excessive loading, either alone or in combination, can result in temperature increases and possible tire failure. The commenters suggested this change because heat build-up can occur at normal speeds when there is tire underinflation or overloading. The current proposal, however, implies that heat build-up would only occur at excessive speeds. The NHTSA agrees with this suggestion and modifies the temperature warning accordingly.

The RMA suggested that the label elaborate on the meaning of the temperature grades C, B, and A. The grades C, B, and A represent comparative differences in a tire's ability to withstand the generation of heat without suffering structural degeneration and potential tire failure. Although the grades C, B, and A in themselves do not inform a consumer of the specific amount of difference between tires in the three grades, the grades do convey to the consumer the fact that one tire performs better than the other in this specific test. To specify more exactly the amount of difference in heat dissipation represented by each grade or the technical nature of the test involved would merely confuse many people not versed in the technical nature of the test. Therefore, the agency has determined that the temperature grading method should be retained as it is. The NHTSA notes further that the court in the *B. F. Goodrich* case examined this aspect of temperature grading and found it to be adequate.

Miscellaneous Labeling

Several commenters requested that the agency implement a labeling system similar to that employed by the Federal Trade Commission (FTC) under the Magnuson-Moss Warranty Act (Pub.

L. 93-637). The FTC in its regulations (16 CFR Part 702) permits the display of warranty information in any of four locations. The commenters to Notice 21 suggested that the agency should adopt the FTC's approach since Congress could not have intended that our regulations be more burdensome than those imposed under the Magnuson-Moss Warranty Act (Warranty Act).

The purpose of the Warranty Act is to ensure the open display of warranty data in order to provide consumers an opportunity to make buying choices based upon available warranties. The purpose of UTQG is similar but not identical to the Warranty Act. UTQG, like the Warranty Act, is intended to provide information to the consumer permitting him or her to make a rational choice in the selection of a product—specifically tires. Beyond the warranty data, however, the UTQG will dispel some of the inaccuracies and otherwise misleading information currently extant in the tire marketing business.

Congress considered tire retailing procedures to be a substantial problem. Accordingly, the Congress enacted a special provision in the National Traffic and Motor Vehicle Safety Act of 1966 to provide information to consumers on these products. The agency considers this specific mandate to justify the requirement that grading information be provided in several locations. At present, grading information must be contained on the tire sidewall (49 CFR 575.104(d)(1)(i)(A)), on a label affixed to the tread surface (49 CFR 575.104(d)(1)(i)(B)), and in the information furnished under CFR 575.6(a) and (c) to motor vehicle purchasers and to prospective purchasers of vehicles or tires (49 CFR 575.104(d)(1)(ii) and (iii)). The provision of UTQG information in several locations will ensure the broadest possible dissemination of this information to consumers.

Further, unlike many other consumer goods that can be adequately handled by the Warranty Act, tires deserve additional consumer safeguards owing to their varied methods of marketing and their importance to traffic safety. Many consumer goods are purchased only as a single final unit from a retail outlet (e.g., small appliances). Tires, on the other hand, can be purchased individually or can come, as in the case of original equipment, as a component of another retail

product (a motor vehicle). Accordingly, the need for maximum dissemination of information through several labeling locations is increased by the varied methods of tire retailing. The crucial role of tires in motor vehicle safety makes it imperative that information on tire quality be brought to the attention of consumers regardless of the marketing method employed.

The agency has previously carefully assessed its requirements for labeling in compliance with UTQG. In that assessment the agency determined that the Congressional mandate coupled with the unique nature of tire marketing warranted the labeling requirements established by the NHTSA. Further, the court in the *B. F. Goodrich* case upheld this labeling approach. Therefore, the agency declines to adopt the modification suggested by the commenters concerning the establishment of alternative labeling rather than mandatory labeling in several locations.

With regard to the wisdom of the UTQG labeling system in comparison with Warranty Act provisions, it is instructive that the FTC Chairman concluded in a September 16, 1977 letter to Goodyear that "it is apparent that the Uniform Tire Quality Grading System will produce useful, reliable information for the buying public." The letter contained no suggestions for improvement of the UTQG regulation, or that the UTQG regulation is in conflict with the Warranty Act.

On a matter of general application to the information label issue, Goodyear recommended that the agency ensure that the tire grading information will be presented to the tire purchaser. To achieve this goal, Goodyear suggested that the tire retailer be required to display the information. Without such a requirement they argued, tire grading information would not be useful.

The agency agrees that the provision of information in an easily identifiable and readily accessible location is necessary to the success of the tire grading concept. This is one of the reasons that the agency has been insistent about requiring the display of this information in a uniform fashion. The NHTSA encourages the open display of this information but remains convinced that the requirement that tires contain a label on the tire tread explaining the grading system is

necessary for purposes of informing the public of tire grading. This label cannot be removed from the tire prior to sale. It is noted that a proposal to modify the requirements for this label is published concurrently with this notice in the proposed rule section of the *Federal Register*.

II. Course Monitoring Tires

On February 14, 1977, the agency issued a notice of proposed rulemaking that tentatively selected the course monitoring tires (CMT's) to be used for treadwear testing (42 FR 10320; February 22, 1977). The CMT's are run on the treadwear test course simultaneously with candidate tires in order to provide an index of course variability that allows the adjustment of treadwear results for such variability. The agency had previously selected the CMT's for radial tires. The court in *B. F. Goodrich* suggested that the NHTSA select all three of the CMT's concurrently including bias ply and bias-belted CMT's which the agency had previously not selected. The court further suggested that the agency permit a short comment period to receive responses on the agency CMT selections.

Most of the comments to this proposal did not question the selection of tires chosen by the NHTSA. Rather, the comments focused upon alleged inadequacies in the NHTSA rulemaking procedures and the statistical analysis employed by the agency to determine the coefficients of variation (COV) for the tires selected. Several commenters criticized aspects of the UTQG procedures previously determined to be valid by the court in the *B. F. Goodrich* case.

Adequacy of NHTSA Data

B. F. Goodrich and several other commenters argued that the agency did not provide ample time for meaningful comment to the notice announcing the selection of CMT's. These commenters alleged that the agency did not submit data to the docket in a timely fashion nor in complete form. For example, they argued that over 2,000 pages of data were docketed on February 14, 1977, which could have been placed in the docket as it was generated through the months of testing.

The agency placed in the public docket on February 14, 1977, more than 2000 pages of data

accumulated through tests of the course monitoring tires. The notice announcing the CMT selections was issued simultaneously, and both the data and the notice were promptly brought to the industry's attention, even though the notice was not published by the *Federal Register* until February 22. Thus, the industry was given somewhat more than the 30-day comment period to analyze and evaluate the data. Commenters should note that the court in the *B. F. Goodrich* case considered that a 30-day comment period would be sufficient to permit adequate comment on the agency announcement of the CMT selections.

The agency did not submit the data pertaining to the CMT selections to the docket in a piecemeal fashion as the commenters suggested should be done for several reasons. First, until all the data were generated and reviewed by the agency no decision could be made concerning the adequacy, in light of the court's mandate, of the CMT's initially selected by the agency. Only after accumulating a mass of data from many tests could the agency be sure of its selections and accordingly go forward with a notice making public its selections. To have released this information prior to the actual determination of the adequacy of the chosen tires would have been premature.

A second reason for waiting to release the information was the ongoing litigation on the subject of UTQG. The court's remand did not formally reach the agency until the mandate issued on December 3, 1976. Since further agency rulemaking action depended upon the outcome of the *B. F. Goodrich* case, the NHTSA considered it necessary to receive the final mandate of the court prior to continuing with its rulemaking effort with respect to UTQG. Upon receipt of the mandate of the court, the agency began rulemaking in compliance with the remand. Rulemaking proceeded expeditiously even though petitioners in the *B. F. Goodrich* case had filed a petition for certiorari.

A further criticism by the commenters concerned an alleged continued withholding by the agency of data necessary for informed comments on the CMT selections. Several commenters stated that the data in the docket contain omis-

sions. For example, the numbered data do not progress in a serial manner.

The agency has not withheld relevant information from the docket as the commenters suggest. The extent that the numbered data (test numbers) do not proceed in a serial manner results from the inclusion of the docket only of those tests involved with the computation of the coefficients of variation (COV). The COV's were computed from the first 6,400-mile cycle (after an 800-mile break-in) of the CMT, as prescribed in the UTQG regulation. Subsequent cycles run on the same CMT were not run for purposes of computing the COV. Therefore, subsequent test cycles of the same tires were deleted from the docketed data so as not to be confused with the computation of the COV's. All of the data upon which the agency based its determinations pertaining to the COV's were placed in the docket.

A further argument of the commenters was that the agency failed to include an analysis of the data indicating how our conclusions concerning COV's were achieved. The agency has used an established method for the determination of the coefficients of variation. The method chosen is an accepted statistical technique. The NHTSA does not consider it necessary to reproduce underlying, routine computations when each set of data is put into the docket.

In connection with the alleged lack of information in the docket, several commenters suggested that the NHTSA make further submissions to the docket concerning the test procedures used by the agency in testing the CMT's. The existing rule on UTQG contains the test procedures for conducting treadwear tests, and the *B. F. Goodrich* case upheld these test procedures. When the agency tests CMT's, the procedures outlined in the rule are, of course, rigidly followed. No other information relevant to the conduct of these tests exists to be placed in the docket.

Some commenters argued that the NHTSA should make public some of the test variables in existence on the days tests were conducted. For example, they suggested that weather could have an impact upon test results and, therefore, records of such weather conditions should be made available to them. The agency did not maintain such records, for the simple reason that the CMT procedure is specifically intended to account for

all such variables. Of course, data such as weather conditions, can be determined from the information contained in the docket. The test data list the date each test was run. If parties care to gather extraneous data for their own purposes, weather information for the days in question can be obtained by contacting a weather service. It should be noted that many major tire manufacturers test in Southwest Texas. Indeed, Goodyear has stated in a brochure which describes its San Angelo proving ground, that "the San Angelo area presents the most ideal conditions for tire testing in the United States." (Docket 25, GR 86.)

The RMA requested as part of their comments that, since further information should in their opinion be placed in the docket, the agency extend the comment period. The agency, as stated above, placed all pertinent information in the docket, obviating the need for an extended comment period. Further, NHTSA procedures for requesting extensions, 49 CFR 553.19, require that such a request be submitted not less than 10 days before expiration of the comment period in accordance with those procedures. Instead, the RMA included a request for extension in the body of their docket comment. It should be noted that, while the procedurally defective request was not granted, the agency has continued to accept and consider the comments of the RMA and others that have been received well after the comment closing date.

Several commenters suggested that the NHTSA publish the base course wear rates for the CMT's chosen by the agency. Publication of these wear rates, the commenters argued, was necessary for their testing of the CMT's and thus for meaningful comments on Notice 22. The agency disagrees that it is necessary to have the base course wear rates for purposes of commenting upon the tires selected by the agency as CMT's. It is the coefficient of variation experienced in the testing that is relevant to their selection as monitors of the course, and the base course wear rate is irrelevant to this consideration.

Since the commenters desired the publication of these figures, albeit irrelevant to the selection of the CMT's, the agency hereby makes them public. The wear rates for the bias ply tire

(Armstrong Surveyor 78) and for the bias-belted tire (General Jumbo 780) are 9.00 mils and 6.00 mils per 1,000 miles, respectively. Since these figures have no impact upon the selection of CMTs announced in Notice 22, no comment period is required as a result of the publication of the base course wear rates.

Firestone submitted two NHTSA technical papers for inclusion in the Docket. These papers have been modified by Firestone's underlining without other comment. These papers are included in the docket even though they are not relevant to the present UTQG regulation.

Possible Radial Wear Rate Problem

In Notice 22, the agency stated that the data appeared to indicate that the wear rate for some radial tires may not be constant. The NHTSA concluded, therefore, that radials would not be included for the time being under the UTQG rule, since computations made under that rule contemplate a constant adjusted wear rate for projection purposes. Industry commenters objected to this treatment of radials and argued that the agency should not proceed with any of the grading requirements unless it proceeds with them all simultaneously.

These commenters cited the *B. F. Goodrich* case which remanded the course monitoring tire issue to the agency, because a selection of all of the CMT's had not been made prior to the establishment of an effective date for the implementation of the rule to all tire types. The commenters interpreted this court mandate to mean that the agency was required to proceed with the promulgation of grading requirements for all three tire types concurrently. The agency does not interpret the court decision in that manner.

The 6th Circuit Court remanded to the agency the issue of the selection of the CMT's. It should be noted that at the time of the court decision the agency had not selected the bias and bias-belted CMT's even though it had established the effective dates for all tire types. Moreover, the court noted that the selection of the radial CMT had been based upon a series of tests (reported in NHTSA Technical Note T-1014) which were flawed by a problem not clearly identified or explained. The court's conclusion, therefore, was

that it was inappropriate to schedule the effective date for compliance of tires with UTQG when the NHTSA had not given notice and invited comment on its selection of the CMT's. This mandate of the court does not prohibit the promulgation of the rule in phases, however.

The court's opinion stated that it would be inappropriate to require grading of a tire when all of the procedures (in this case the CMT selection) had not been chosen, and commented upon, for that tire. The court did not, in the opinion of the NHTSA, state that the agency could not proceed with rulemaking on some tire types pending further study of the application of the rule to another tire type. Therefore, the agency does not find merit in the position of the commenters who allege that the agency must proceed with a rule for all tire types at the same time.

The agency has responded to the remand in Notice 22 by announcing the selection of all CMT's. That notice gave the industry adequate time to comment upon the agency's selections. However, until possible problems concerning the testing of radials are resolved, the agency will not set an effective date for the application of the rule to radial tires. As long as an effective date applicable to the grading of radials is not established prior to the establishment of grading procedures for that tire, the NHTSA can implement the rule with respect to the other tire types and is not in violation of the court's remand.

Several commenters argued that regardless of the court mandate, the NHTSA should not go forward with tire grading for two tire types while excluding radials. The commenters asserted that altered test procedures for radials could result in different tests or a different test course for radial tires which would make comparisons between them and the other tire types meaningless.

By this comment, it is apparent that some people may have misunderstood the agency's earlier notice announcing the possible problem with radials. The problem that may attend the grading of radial tires is one of computing the wear rate after the 6400-mile test has been completed, since there is some evidence suggesting that these tires may not wear at a constant rate after only an 800-mile break-in. No comparable

problem has been found for bias and bias-belted tires. Ample data have been generated demonstrating that the wear rates for bias ply and bias-belted tires are constant after an 800-mile break-in. At present there are no plans to alter the test course or the actual test procedures. If changes were considered necessary in either the test course or procedures, careful attention would then be given to their impact upon the comparative nature of the grades given other tire types. The agency would not implement test procedures for radial tires that differ from the procedures used for bias and bias-belted tires without affording adequate time for comment upon such test procedures and without carefully evaluating comments received on such test procedures.

The agency would like to note that with respect to the issue of radials, it was stated in the earlier notice that an *apparent* problem had been discovered with radials. The agency is not yet convinced that this problem does exist. However, until such time as further analysis can be accomplished, the NHTSA considers it prudent to proceed cautiously with the implementation of the UTQG requirements for radial tires.

Several commenters questioned the validity of the test procedures for testing treadwear. Goodyear stated that the driving instructions are unclear and, in particular, the braking procedure is not good. They stated further that the spacing in convoys was dangerously close on corners. Cooper Tire Company stated that the tests could not be repeated within statistically acceptable margins of error and, therefore, would be unenforceable.

The NHTSA does not agree with these comments questioning the validity of the test methodology. The agency has determined that these procedures provide a viable testing technique which can be duplicated for enforcement purposes. Further, the court in *B. F. Goodrich* upheld the test methodology. Accordingly, the agency sees no need to modify the test procedures.

Goodyear also argued that the test course has been changed since the last update of the rule by the agency. For example, they argued that some stop signs are now yield signs. On a test course of this size and nature, minor modifications of road signs are to be expected with certain regu-

larity. The regulation only lists "key points" to assist regulated parties, and has updated the regulation to reflect changes in these key points and will continue to do so. The minor changes in the test track which have occurred since the last publication of the regulation are included in this notice.

The agency notes that with respect to sign changes in the treadwear course, such minor changes have no significant impact on tire grading. The use of CMT's is designed to reduce the effects, if any, of the course variables, including course markings. Therefore, the agency considers that minor changes in the road markings which will occur from time to time should have no impact upon the comparative ratings of tires. Nevertheless, the NHTSA will make every effort to update the regulation periodically to reflect changed course markings.

III. Effective dates

Several commenters asserted that the agency must propose effective dates to give the industry time to comment on the appropriateness of such dates. Notice 22 did not propose effective dates for the implementation of the regulation to bias and bias-belted tires. The agency has established the effective dates for all provisions other than the molding requirement as seven months from the publication of the final rule in the case of bias ply tires and 13 months from publication in the case of bias-belted tires. An additional six months has been provided in each case for the revision of tire molds. The issue of effective dates was litigated in the *B. F. Goodrich* case. The court there held that the implementation lead time as chosen by the agency was sufficient. The determination was based upon an evaluation of the capacity of the treadwear course and traction skid pads in relation to the number of tires to be tested. Therefore, since the agency has not modified the test procedure in any manner, there is no need to raise again the issue of effective dates as long as the agency allows the same lead time as was held valid by the court. Moreover, as noted in the court's opinion, the agency will closely monitor the actual use of the treadwear course and traction skid pads and will exercise its discretion to extend the lead time periods if it should become necessary to do so in the future.

Cooper Tire Company stated that changing the order of implementation of the requirements requires a reassessment of the effective date requirements. For example, radial tires no longer will be the first tire type to be tested. According to Cooper, a manufacturer may be harmed by the change in the order of implementation and further study of the effective dates is thus warranted.

The agency does not agree that a change in the order of implementation of the grading regulation for different tire types requires total reconsideration of the effective dates. As set forth in this notice and in Notice 22, bias ply will be the first tire construction type required to be graded. A count by NHTSA staff of the number of passenger tire lines set forth in a standard reference, "1977 Tread Design Guide" (published by the Tire Information Center, Commack, New York), excluding winter treads (snow tires) and duplicates of the same tread design, indicates that of some 1139 tire lines on the market, approximately 431 are radials, 408 are bias-ply, and the remaining 300 are bias-belted. Therefore, if ample time was provided in the previous rule for the testing of radials, and the court held that the lead time was sufficient, there certainly should be sufficient lead time to test bias ply tires which are fewer in number. Although this change may create greater test burdens for individual manufacturers, it will not impair the ability of the test facilities to accommodate tire grading.

IV. Statistical Comments

The RMA criticized the NHTSA's statistical analysis of the data upon which the coefficients of variation were derived. The RMA submitted a paper written by Dr. Shelemyahu Zacks purporting to discredit the NHTSA's analysis. Through this paper the RMA suggested that the coefficients of variation (COV) were larger than the agency had indicated.

The analysis done by the NHTSA was conducted according to statistically acceptable procedures, but the NHTSA concluded that it would be prudent to obtain an impartial review of both the Zacks' and the NHTSA's analyses of the COV's. The agency contracted with a noted statistician, Dr. Herbert Solomon, who reviewed the agency's procedures in view of Dr. Zacks' criticisms of those procedures and concluded that

the agency was correct in its method of computation of the COV's. The full text of both the Zacks and Solomon papers as well as the agency's analyses of the former are in the public docket.

Subsequent to the Solomon report, the RMA submitted several comments intended to refute the accuracy of the report. In particular, the RMA contended that the use by NHTSA of "n" ("n"=sample size), rather than "n-1", as the divisor in computing the sample standard deviation was incorrect and produced an inaccurately low COV. After careful review of this question, the agency has concluded that the use of "n" in the formula for the sample standard deviation is a proper statistical approach as a step in the process of determining the sample COV. Moreover even if the alternative "n-1" formula were adopted, the resulting COV's of 4.74, 3.08, and 2.70 for bias, belted bias, and radial tires respectively would still fall within the 5% coefficient of variation which was approved by the court in the *B. F. Goodrich* case. The RMA's other contentions were also carefully reviewed and were found to be invalid and to reiterate much of the information contained in earlier RMA comments. Therefore, the agency declines to adopt the statistical approach proffered by the RMA as well as the other recommendations of the RMA that attend their method of statistical analysis.

B. F. Goodrich submitted a statistical study by its engineering staff of models of the wear behavior of tires. (C. Thomas Wright, "The Adequacy of Linear Models in Tread Life Testing"). The agency's analysis of the study revealed that significant errors in the study accounted for Wright's differences with the linear model employed in the regulation. The agency analysis was placed in the docket, and B. F. Goodrich subsequently filed a rebuttal to the analysis. Review by the agency of that rebuttal confirms that Wright's differences with the regulation's linear model involve his failure to observe conventional statistical precepts.

Uniroyal submitted comments suggesting that the NHTSA testing procedure did not adequately consider the effects of actual driving conditions upon tire grades. Uniroyal conducted a random sampling of tires on automobiles in parking lots. The conclusion of that study was that tires wear

at varied rates depending upon the type of car, size of tire, load on the tire, and many other variables. Uniroyal suggested that its results indicated that it would have to test unlimited combinations of its tires to ensure correct grading.

The NHTSA has always stated that UTQG does not give an exact measurement of a tire's life under all conditions. The agency realizes that tire life will vary depending upon a number of conditions. The court in *B. F. Goodrich* also recognized this fact when it stated that no test designed to grade millions of tires will be perfect. Few measuring techniques are. However, for this reason the agency cautions individuals concerning misapplication of the grading information.

The Uniroyal survey yields results that are to be expected but that have no impact upon the validity of the UTQG test procedures. The test procedures for UTQG control most of the variables. The course, speed, drivers, stopping conditions, and many other variables are controlled for tire testing purposes. For those environmental variables beyond the control of the agency, the NHTSA uses the CMT to measure their effect. The Uniroyal study did not control these variables. Accordingly, it does not present an accurate picture of comparative data between tire lines. The agency has determined that comparing different tires under similar conditions on the treadwear course and traction skid pads does yield excellent comparative data. Therefore, the agency discounts the value of the Uniroyal study for purposes of questioning the validity of UTQG testing. The Uniroyal study merely indicates that the public must be cautioned against the misuse of grades provided on the tires. The NHTSA concludes that the warnings provided on the grading label information provide sufficient cautionary advice to the consumer.

Cooper Tire Company ran computer tests intended to show that the same tire might receive different grades with any two tire treadwear tests. According to Cooper this indicated that the UTQG requirements are unenforceable.

It has been argued in the past that enforcement testing for many of the agency's regulations and standards depends upon a test of a single piece of equipment or motor vehicle and accordingly

the results cannot be projected to all vehicles or equipment. In other words, the commenters suggest that a noncompliance in one vehicle or item of motor vehicle equipment does not mean that all vehicles are defective.

The agency's enforcement actions pertaining to all standards have been conducted, in the past, using a variety of data. A failure of equipment or a vehicle to reach a performance standard during an agency enforcement test indicates a potential noncompliance. The agency then goes to the manufacturer of the affected vehicle or equipment and requests the results of the manufacturer's tests or other data upon which he based his certification of compliance with the standard. A similar method of enforcement is contemplated for UTQG.

V. Petitions for Reconsideration.

On May 28, 1975, the NHTSA published the final UTQG rule. In response to that rule, several petitions for reconsideration were received by the agency. A response to these petitions for reconsideration was delayed pending the outcome of the litigation in the *B. F. Goodrich* case. Several of the issues raised in the petitions have been answered by that litigation or in subsequent notices issued by the agency. The NHTSA will now respond to those issues raised in the petitions and not previously addressed.

Several tire manufacturers commented that the lead time allowed prior to the effective date of the regulation was not adequate. The Japan Automobile Tire Manufacturers' Association, Inc. argued that there were significant time problems in the shipment of tires to the United States for treadwear testing on our test course and transmission of the resultant data back to Japan.

The issue of lead time was litigated in the *B. F. Goodrich* case. The court upheld the agency's proposed lead time. Since the agency does not propose to reduce the amount of lead time from that proposed in 1975, there should be no problem with meeting the effective date of the regulation.

Automobile manufacturers argued that they need more lead time than tire manufacturers since the specificity of the data required in the owner's manual forces them to wait until they

receive the newly graded tires before printing the manuals. On a related point, many of the manufacturers suggested that the agency require in the owner's manual only general tire grading information. They argued that this is necessary because frequently manufacturers are unable to obtain the tire with which they normally equip their cars. In such an event, they would have to print a new owner's manual containing the new tire information and would be required by Part 575 of our regulations to submit a copy of this new information to the NHTSA 30 days prior to its issuance.

The agency has determined that the automobile manufacturers should operate under the same lead time constrictions as the tire manufacturers. Therefore, the effective date of the requirements applicable to the tire manufacturers shall also be applicable to the automobile manufacturers. This will ensure complete dissemination of grading information at the earliest possible time.

The agency has concluded that the manufacturer's suggestion to provide only general tire information in the owner's manual has merit. It would be cumbersome for a manufacturer to submit to the agency for 30-day review its owner's manual information every time a change in tires was contemplated or required. The agency considers it sufficient for purposes of informing consumers, for manufacturers to provide general grading information in the owner's manual. This information would explain the grading system, giving the cautionary warnings to the consumer concerning the possible misuse of the UTQG information. The consumer could then be directed to look at the tire sidewall for the particular grading of the tire. The rule has been amended to reflect this modification.

The Motor Vehicle Manufacturers Association (MVMA) and GM argued that the temperature resistance grading system would be misleading to consumers. Both suggested a two grade approach to temperature testing using the "high speed" designation for tires designed to operate under those conditions. The agency does not agree that the temperature information will be misleading. The implementation of the proposed warnings on the misuse of the temperature information should prevent any potential for consumer misunder-

standing. The agency notes further that the court upheld the existing temperature resistance test.

Several manufacturers suggested that the NHTSA exempt the space saver tire from the UTQG requirements. They argued that this tire is designed for a limited life and for a special use only and, therefore, should not be required to comply with the regulation.

The NHTSA agrees that the space saver tire and other temporary use spare tires should be exempt from the requirements of the regulation. These tires are of reduced size or are inflatable. They are designed so that as installed in the vehicle, they reduce vehicle weight and create more vehicle interior space. Since the useful life of these tires is frequently limited to 2,000 miles, it would be inappropriate to require them to comply with the treadwear requirements. The agency amends the regulation to indicate that the space saver and temporary use spare tires are exempted from the regulation's requirements.

Volkswagen and the European Tyre and Rim Technical Organisation (ETRTO) argued that the treadwear information would confuse the public and be misused. ETRTO argued further that treadwear grading has nothing to do with safety and should be deleted from the requirements.

The treadwear labeling requirements are proper and were upheld by the court. Accordingly, the agency declines to change or delete those requirements as suggested by the manufacturers. Further, the agency notes that the UTQG regulation is promulgated under a special authorization of the Act (15 U.S.C. 1423). It is a consumer information regulation issued at the behest of the Congress.

On a related matter of labeling, ETRTO also requested that the words "treadwear", "temperature", and "traction" not be required to be molded into the sidewall owing to the expense of that operation. Once again, the 6th Circuit upheld the agency on its proposed labeling requirements while suggesting additional warnings to prevent the misuse of that information. The NHTSA requires the use of the words "traction", "treadwear", and "temperature", because these words

will help avoid confusion as to the meaning of the symbols molded onto the tire sidewall.

ETRTO also suggested that NHTSA extend the effective dates for the traction requirements since the standard test trailer can not accommodate small tires. The agency declines to extend the effective date for the implementation of the requirements. However, small tires are being excluded from the requirements until such time as a test trailer is equipped to test them.

Dunlop recommended that the lowest of the three possible tire traction grades be eliminated, on grounds that an open-ended grade would allow production of tires with extremely poor traction in order to obtain higher treadwear or temperature resistance grades. In effect, Dunlop was requesting a minimum traction standard. The agency has an outstanding proposal that would establish such a minimum standard (38 FR 31841); November 19, 1973) and will respond to Dunlop's request by means of the separate rulemaking.

Dunlop suggested that the agency permit the tire information to be molded onto the tire in two tiers using smaller size lettering. Currently the regulation requires that the information be molded into the sidewall in either one or three tiers using 1/4 inch lettering. Dunlop argued that some of their tires are too small to permit the display of information printed in one tier without conflicting with other information molded on the sidewall. Further, they stated that the depth of their tires was such that three tiers of information would not easily fit on them.

The exclusion of the smallest tires from the UTQG requirements for the time being may alleviate this problem since these are the tires that present the greatest problems concerning available space for sidewall molding. Nonetheless the agency amends the regulation to reduce the print size of the required molding from 1/4 inch to 5/32 inch. Finally, the NHTSA can see no reason not to permit the molding of information into the sidewall in two tiers. Accordingly, the agency amends the regulation establishing a format for two tier information.

In a comment by ETRTO, it was suggested that the agency clarify its position with respect to the use of front wheel drive and rear wheel

drive vehicles in a convoy for treadwear testing. The regulation states that the vehicles used will be rear wheel drive vehicles, but the preamble (Notice 17) stated that testing would be accomplished by the use of vehicles for which the tires were designed, which might include front wheel drive vehicles. In accordance with the regulation which was issued in 1975 and upheld by the court, the agency has determined that only rear wheel drive vehicles will be used for treadwear testing. This removes the possibility that any vehicle variations between front and rear wheel drive vehicles will affect the tire test results.

In accordance with Department policy encouraging adequate analysis of the consequences of regulatory action, the agency has evaluated the anticipated economic and other consequences of this amendment on the public and private sectors. The agency has determined that the regulation will benefit tire consumers by affording them more detailed information upon which to make informed tire purchases. The regulation will thus reduce some of the existing confusing claims associated with tire marketing.

As the purpose of UTQGs is to help the consumer make an informed choice in the purchase of passenger car tires, the agency will soon initiate action to evaluate whether the rule is meeting this goal. It is planned that surveys will be undertaken to determine how easily understandable and meaningful the grades are to purchasers, how the grades are utilized in purchase decisions and any measurable economic effect that may occur both within the passenger tire industry and to consumers as a result of the rule. The emphasis will be on the utility of the grading system to consumers. Major points of interest of the con-

sumer survey will be the extent to which consumers use the grading system in their purchase decisions, the extent to which it has increased their knowledge and awareness of the characteristics of various tire constructions and tire lines and whether they feel the grading system is valid and worthwhile.

Effective date finding: Under section 203 of the Act, the Congress stated that the regulation should become effective not sooner than 180 days nor later than one year from the date that the rule is issued. Based upon this direction and other agency findings concerning required lead time for grading tires, the agency has determined, and the Court has upheld, that phased implementation of the rule in essentially 6-month intervals is appropriate.

The program official and lawyer principally responsible for the development of this rulemaking document are Dr. F. Cecil Brenner and Richard Hipolit, respectively.

In consideration of the foregoing Part 575.104 of Title 49 of the Code of Federal Regulations, is amended. . . .

(Secs. 103, 112, 119, 201, 203; Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1407, 1421, 1423); delegation of authority at 49 CFR 1.50.)

Issued on July 12, 1978.

Joan Claybrook
Administrator

43 F.R. 30542
July 17, 1978

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION REGULATIONS

Temperature for Tire Testing

(Docket No. 25; Notice 25)

Action: Final rule.

Summary: This notice establishes a uniform tire testing temperature for the test requirements of the Uniform Tire Quality Grading regulation and the Federal motor vehicle safety standard for non-passenger-car tires. This amendment simplifies existing requirements by permitting various tire tests to be conducted at the same temperature.

Effective date: July 17, 1978.

For further information contact:

Arturo Casanova III, Crash Avoidance Division, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202) 426-1715.

Supplementary information: The National Highway Traffic Safety Administration (NHTSA) proposed on March 3, 1977 (42 FR 12207), to amend the ambient temperature conditions for tire testing contained in Standard No. 119, *New Pneumatic Tires for Vehicles Other Than Passenger Cars* (49 CFR 571.119), and in Part 575, *Uniform Tire Quality Grading* (49 CFR 575.104) (UTQG). The purpose of this proposed amendment was to harmonize existing tire testing temperatures as requested by the Goodyear Tire and Rubber Company. The ambient temperatures were previously specified as follows:

Standard No. 109: "100±5° F."

Standard No. 119: "any temperature . . . up to 100° F."

UTQG: "at 105° F."

In the notice of proposed rulemaking, the agency proposed to amend Standard No. 119 and UTQG to reflect the tire temperature utilized in

Standard No. 109 (100±5° F.). As an alternative method of expressing the test temperature, the NHTSA proposed to amend the standards to specify "any temperature up to 95° F."

Five comments were received in response to that proposal. All comments favored the proposed amendment that would have instituted a 100±5° F. temperature. The Vehicle Equipment Safety Commission did not take a position on this proposal.

After consideration of the issues involved in the proposal and review of the comments, the agency has determined that the test temperature should be expressed as "any temperature up to 95° F." Accordingly, Standard No. 119 and UTQG are amended to specify temperature testing at "any temperature up to 95° F." It is the NHTSA's opinion that the 95° F. test temperature is in effect the same test temperature as would be achieved by using the 5-degree tolerance (100±5).

The NHTSA has often stated in interpretations on similar issues that the use of tolerances in safety standards reflects a misunderstanding of the legal nature of the safety standards. Standards are not instructions, but performance levels that vehicles or equipment are required by law to be capable of meeting. Any tolerance in this context would be meaningless and misleading, since it would merely have the effect of stating a performance level that the equipment must meet when tested by the government, but in a confusing manner.

Recognizing that no measurement is perfectly precise, a manufacturer's tests should be designed to show, using tire testing temperature as an example, that his tires will comply with the requirements at exactly 95° F. This may be done in at least two ways: (1) by using a test method

that corresponds so closely to the required temperature that no significant differences could occur as a result of differences between the actual temperature and the specified one, or (2) by determining which side of the specified temperature is adverse to the product tested, and being sure that the actual temperature of the test differs from the specified one on the adverse side.

The amendment of Standard No. 119 and UTQG to reflect the 95° F. temperature creates a different temperature phraseology for those standards than exists in Standard No. 109 which still has the 100±5° F. temperature. As stated earlier, the NHTSA considers the Standard No. 109 temperature tolerance to mean in actuality "any temperature up to 95° F." However, since modification of that standard was not proposed in the earlier notice, the agency does not amend it in this final rule. However, the agency intends to issue an interpretive amendment that will amend Standard No. 109 to adopt the alternative expression for tire temperature testing (any temperature up to 95° F.) unless objections are received.

In accordance with Departmental policy encouraging analysis of the impact of regulatory actions upon the public and private sectors, the agency has determined that this modification will

result in no appreciable safety gains or losses. These amendments may result in slightly lower costs for tire temperature testing since all temperatures will be uniform.

Since these amendments relieve restrictions and impose no additional burdens, it is found for good cause shown that an immediate effective date is in the public interest.

In consideration of the foregoing, . . . amendments are made in Parts 571 and 575 of Title 49, Code of Federal Regulations.

The program official and lawyer principally responsible for the development of this rulemaking document are Arturo Casanova and Roger Tilton, respectively.

(Secs. 103, 112, 119, 201, 203, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1421, 1423); delegation of authority at 49 CFR 1.50.)

Issued on July 12, 1978.

Joan Claybrook
Administrator

43 F.R. 30541
July 17, 1978

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION REGULATIONS

Uniform Tire Quality Grading

(Docket No. 25; Notice 27)

This notice amends the Uniform Tire Quality Grading (UTQG) Standards to revise the grading symbols used to indicate traction grades and responds to a petition for reconsideration of the effective dates for the information requirement regarding first purchasers of motor vehicles. The notice, further, responds to petitions for reconsideration submitted by the Rubber Manufacturers Association and The Goodyear Tire & Rubber Company, regarding an amendment of the tire testing temperature employed in the UTQG regulation and the non-passenger-car tire safety standards, which established a single test temperature for the performance requirements of the two standards. The notice also withdraws a NHTSA proposal to modify the tread label requirements of the Uniform Tire Quality Grading Standard. These actions are intended to aid consumer understanding of the UTQG grading system and facilitate industry tire testing.

Effective date: October 23, 1978.

For further information contact:

Dr. F. Cecil Brenner, Office of Automotive Ratings, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590, (202) 426-1740.

Supplementary information: On July 17, 1978, (43 FR 30542), NHTSA republished the UTQG Standards (49 CFR 575.104) to assist the consumer in the informed purchase of passenger car tires. (Docket No. 25, Notice 24). The standard requires that manufacturers and brand name owners provide simple comparative data on tire performance, which can be considered by purchasers in selecting between competing tire lines. Concurrently, with issuance of the final rule, the agency proposed modifications of the standard's provisions relating to traction grading symbols and tread labels (43 FR 30586; July 17, 1978).

Traction Grading Symbols

The notice of proposed rulemaking (43 FR 30586), issued concurrently with the republished final rule, proposed revision of the symbols used to denote tire traction grades. The agency invited comment on the use of an A, B, C hierarchy of traction grades in place of the **, *, 0 system now required by paragraph (d) (2) (ii).

The Automobile Club of New York commented that the proposed traction grading symbols would be "far more meaningful to consumers" than the asterisks and zeros used in the existing regulation. The National Tire Dealers & Retreaders Association viewed the letter grading proposal as an improvement, and, in response to Notice 24, the Metropolitan Dade County, Florida, Office of the Consumer Advocate approved of an A, B, C grading system as falling within the experience of all consumers.

The only negative comment came from Atlas Supply Company which expressed concern that, if consumers are warned, as the rule requires, that tires with a C traction grade may have poor traction performance, they may assume that a C temperature resistance grade likewise denotes poor temperature resistance qualities. Atlas recommended that the lowest traction grade be abolished completely and that only the symbols A and B be used to represent traction grades.

In fact, the agency is currently considering promulgation of a tire traction safety standard which would set a minimum performance level such that tires falling within the lowest UTQG traction performance grade would not comply with the safety standard (43 FR 11100; March 16, 1978, and 38 FR 31841; November 19, 1973). Pending issuance of such a standard, however, consumers should not be misled as to the nature of the C temperature grade, since the explanation of the grading system, to be furnished under the

standard, specifically states that the C grade indicates a level of performance which meets the applicable Federal safety standard.

The agency has concluded that the A, B, C grading symbols for traction performance will be an aid to consumer understanding of the UTQG system due to the general familiarity with letter grading systems and the hierarchy inherently associated with these symbols. Consumer comprehension of the grading system will also be improved by eliminating the need to use three different sets of symbols. The symbols A, B, and C are, therefore, adopted to represent traction grades under the UTQG Standard.

Tread Label Requirements

The existing UTQG regulation provides that each passenger car tire, other than one sold as original equipment on a new vehicle, shall have affixed to its tread surface a label indicating the specific treadwear, traction, and temperature grades for that tire, as well as a general explanation of the grading system. In its July 17, 1978 notice of proposed rulemaking (43 FR 30586), the agency proposed to amend section 575.104 (d)(1)(i)(B) of the standard, to require only general grading information on the tread label, while retaining a separate requirement that specific grades be molded on the tire sidewall. The tread label would have been modified to include a statement referring the consumer to the tire sidewall for the actual grades of the particular tire. The notice also proposed that specific tire grades be supplied, at the manufacturer's option, on either tread labels or on the sidewall during the six-month period prior to the effective dates of the molding requirement.

In commenting on the notice, Goodyear argued that provision of specific grading information on the tread label would not be feasible and would add to the cost of implementation of the standard. American Motors Corporation commented that provision of specific grades in two places would be redundant and an unnecessary expense.

However, Michael Peskoe, an individual involved in early development of the standard, argued that the tread labeling requirement is not redundant, since tire sidewall molding was intended primarily to supply a permanent record

of the tire grades, to be considered when replacing the tires, rather than to convey information to the prospective purchaser. He also stated that, with regard to cost and feasibility considerations, tire specific identification labels, bearing information such as tire line and size, are already in widespread use within the industry to aid in the distribution of tires. Therefore, the burden of adding the specific UTQG grades for the particular tire classification should be minimal.

The Automobile Club of New York and Mr. Peskoe commented that provision of specific tire grades only on the sidewall would hinder use of the information in the situation, common in tire dealerships and service stations, where tires are displayed on racks, sidewall to sidewall. Tires would have to be removed from the display rack before the grades molded on the sidewall could be observed. The problem would be compounded where the purchaser wishes to compare the grades on several tires.

While NHTSA is concerned with keeping the cost of the UTQG regulation at a minimum, existing tire labeling and marketing practices lead the agency to the conclusion that tread labels containing specific tire grading information should continue to be required for replacement tires. The agency had earlier determined that identification of specific tire grades on tread labels is feasible and involves a very limited cost to manufacturers and consumers. Tire-specific tread labels have been demonstrated to be an integral and necessary part of the regulation's plan for getting useful information to tire purchasers. The proposal to require only general grading information on tire tread labels is, therefore, withdrawn.

Effective Dates for Point of Sale Information

Notice 24 set March 1, 1979, in the case of bias-ply tires and September 1, 1979, in the case of bias-belted tires, as effective dates for all UTQG requirements except the molding requirements of paragraph (D)(1)(i)(A). The molding requirements applicable to bias and bias-belted tires were made effective September 1, 1979, and March 1, 1980, respectively.

The purpose of this delayed phase-in schedule for tire sidewall molding is to provide manufacturers with extra time to prepare new tire molds

containing grading information. However, the delay in effective dates for tire molding had the unintended effect of creating a six-month interval between the time vehicle manufacturers must provide point of sale information on tire quality grading to prospective purchasers, and first purchasers of motor vehicles (49 CFR 575.104(d)(1)(ii) and (iii)) and the date on which grading information actually must appear on the tires sold. In the case of information to be furnished to first purchasers under paragraph (d)(1)(iii), potential for confusion exists since consumers will be referred to the tire sidewall for specific tire grades, when in many cases, molds will not yet have been modified for the tire lines being supplied.

To correct this situation, American Motors Corporation has petitioned NHTSA to reconsider the effective dates for paragraph (d)(1)(iii). American Motors has recommended that the effective dates for paragraph (d)(1)(iii) be amended to correspond to those of paragraph (d)(1)(i)(A), the molding requirement. The agency has already recognized the difficulties involved in providing specific grades for original equipment tires through the use of tread labels (39 FR 1037; January 4, 1974) or point of sale information (43 FR 30547; July 17, 1978). To better coordinate the availability of specific tire grading information on tire molds and the provision of explanatory information through vehicle owner's manuals, American Motors' petition for reconsideration is granted. The effective dates for paragraph (d)(1)(iii) are changed to September 1, 1979, for bias-ply tires and March 1, 1980, for bias-belted tires.

Paragraph (d)(1)(ii) of the regulation requires that vehicle and tire manufacturers furnish to prospective purchasers an explanation of the UTQG grading system. Although this provision also takes effect six months prior to the tire molding requirements, the agency has concluded that no corresponding change in effective dates is necessary. Paragraph (d)(1)(ii) provides for the availability of valuable information to prospective tire purchasers, since specific grading information will be available on replacement tires sold during the six-month phase-in period. Further, the paragraph contains no potentially confusing

reference to the tire sidewall as does paragraph (d)(1)(iii). Prospective vehicle purchasers who obtain the information prior to the sidewall molding effective dates will be given the opportunity to familiarize themselves in advance with the new grading system.

Temperature for Tire Testing

On March 3, 1977 (42 FR 12207), NHTSA proposed to amend Standard No. 119, *New Pneumatic Tires for Vehicles Other Than Passenger Cars* (49 CFR 571.119), and the UTQG Standards to establish the same ambient temperature for tire testing in both standards, to allow more efficient use of tire test facilities. The notice proposed "any temperature up to 95° F" and "100±5° F" as alternative means of phrasing the new, identical test temperature.

After consideration of comments, the agency determined that the ambient test temperature should be expressed as "any temperature up to 95° F" (43 FR 30541; July 17, 1978). NHTSA received petitions for reconsideration from the Rubber Manufacturers Association (RMA) and The Goodyear Tire & Rubber Company, recommending that the test temperatures for Standard No. 119 and the UTQG regulation include tolerances and be specified as "100° F±5° F." As NHTSA has frequently stated in past notices on these and other standards (e.g., 40 FR 47141; October 8, 1975), such a recommendation reflects a misunderstanding of the legal nature of motor vehicle standards, NHTSA standards are not instructions to test engineers, but performance levels that vehicles and equipment must be capable of meeting. The use of a tolerance range in this context is confusing since it creates ambiguity as to the performance level required.

Establishment of a precise performance requirement, expressed without a tolerance, still recognizes that measurement techniques cannot be controlled perfectly. Given a specified performance level, manufacturers can design their tests to assure compliance in at least two ways: (1) by using a test procedure that conforms so closely to the specified measurement that no significant variations could occur, or (2) by determining which side of the specified level is adverse

to the product being tested, and targeting test conditions so that any deviation will occur on the adverse side. In this case, a tire manufacturer may use an ambient temperature slightly above 95° F to demonstrate, through adverse conditions, that its tire would comply at the specified temperature.

In its petition for reconsideration, Goodyear commented that all test laboratories should employ the same ambient temperature conditions. However, such uniformity is not advantageous in a regulatory context, since government compliance testing and manufacturers' laboratory evaluations are undertaken for different purposes.

Goodyear also argued that a fixed 95° F test temperature and a "100±5° F" tolerance range do not establish "in effect the same test temperature", as stated in the agency's July 17, 1978 notice (43 FR 30541). A fixed 95° F requirement is, in fact, from the manufacturers' perspective identical to a "100±5° F" provision, since, given a controlled variation in test conditions of 5° F in either direction from the target temperature, manufacturers seeking to assure compliance with a 95° F requirement will set their test target temperature at 100° F. For these reasons, the petitioners' recommendation of a "100±5° F" test temperature is rejected.

The RMA and Goodyear petitions noted that the open-ended nature of the requirement "any temperature up to 95° F" appeared to require that tires be capable of attaining specified performance levels when tested at temperatures ranging from 95° F to sub-zero conditions. The RMA petition stated as its primary concern the possibility, under the UTQG system, that a tire could be conditioned at a higher temperature than that at which it is tested for temperature resistance. Such inconsistency could, the RMA suggested, result in the tire being underinflated during testing.

The agency has concluded that the ambient temperature specification "at 95° F" more accurately describes the fixed temperature which the agency intended to establish than does the open-ended provision "any temperature up to 95° F." Standard No. 119 and the UTQG

Standards are, therefore, amended by substitution of a fixed temperature requirement of 95° F in place of "any temperature up to 95° F."

To the extent that the RMA and Goodyear petitions for reconsideration are not granted by this amendment, the petitions are denied.

In accordance with Departmental policy encouraging analysis of the impact of regulatory actions upon the public and private sectors, the agency has determined that these actions will have no appreciable negative impact on safety. Since the modification of effective dates relieves a restriction, and the change in grading symbols will result in no new burdens, no additional costs will be imposed on manufacturers or the consumer. Withdrawal of the tread labeling proposal imposes no new costs not contemplated in issuance of the UTQG Standards. The new temperature phraseology has absolutely no effect on the tire performance requirements, but will eliminate any possible ambiguity in the standards' meaning. For these reasons, the agency hereby finds that this notice does not have significant impact for purposes of the internal review.

Effective date: In view of the need for a fixed temperature requirement to allow tire performance testing to proceed, and the ongoing preparation by the industry for implementation of the UTQG system, the agency finds that an immediate effective date for the amendments to Standard No. 119 and the UTQG regulation is in the public interest.

In consideration of the foregoing, the following amendments are made in Part 575 and 571. . . .

(Sec. 103, 112, 119, 201, 203, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1421, 1423); delegation of authority at 49 CFR 1.50.))

Issued on October 23, 1978.

Joan Claybrook
Administrator

43 F.R. 50430-50440
October 30, 1978

PREAMBLE TO AMENDMENT TO PART 575—CONSUMER INFORMATION

Uniform Tire Quality Grading

(Docket No. 25, Notice 31)

Action: Final rule and establishment of effective dates.

Summary: This notice announces the effective dates for application of the Uniform Tire Quality Grading (UTQG) regulation to radial tires and discusses comments on previously announced testing and analysis of radial tire treadwear under the road test conditions of the UTQG regulation. This notice also interprets the effect of the thirty-day stay of the UTQG effective dates, granted by the U.S. Court of Appeals for the Sixth Circuit, and corrects an inadvertent error in the text of the regulation.

Effective date: For all requirements other than the molding requirement of paragraph (d)(1)(i)(A) and the first purchaser requirement of paragraph (d)(1)(iii), the effective date for radial tires is April 1, 1980.

For paragraph (d)(1)(i)(A), the molding requirement, and paragraph (d)(1)(iii), the first purchaser requirement, the effective date for radial tires is October 1, 1980.

For further information contact:

Dr. F. Cecil Brenner, Office of Automotive Ratings, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 205 (202) 426-1740.

Supplementary information: Acting under the authority of the National Traffic and Motor Vehicle Safety Act of 1966 (the Act) (15 U.S.C. 1381, et seq.), the NHTSA republished as a final rule the UTQG Standards, establishing a system for grading passenger car tires in the performance areas of treadwear, traction and temperature resistance (43 FR 30542; July 17, 1978). The regulation will provide consumers with useful, comparative data upon which to base informed

decisions in the purchase of tires. Extensive rulemaking preceded the July 17th notice, and a comprehensive discussion of the regulation's purpose and technical justification may be found in a series of earlier Federal Register notices (40 FR 23073; May 28, 1975; 39 FR 20808; June 14, 1974); 39 FR 1037; January 4, 1974; 36 FR 18751; September 21, 1971).

The July 17 notice also established effective dates for application of the regulation to bias and bias-belted tires. Establishment of an effective date for radial tires was deferred pending further analysis of test results relating to the treadwear properties of radials. Questions concerning the two other performance areas of the standard, traction and temperature resistance had previously been resolved, and therefore are not discussed in this notice.

On November 2, 1978, NHTSA issued a notice (43 FR 51735; November 6, 1978) announcing the availability for inspection of the results of the agency's test program for radial tires and NHTSA's analysis of the test results (Docket 25; Notice 28). A thirty-day period, later extended to 45 days (43 FR 57308; December 7, 1978), was provided for public comment on the data and analysis. After examination of all comments received, NHTSA has concluded that an effective date for grading of radial tires under the UTQG system can and should be established at this time.

Need for Grading of Radial Tires

In response to Notice 28, several commenters pointed out the importance of extending the UTQG Standards to radial tires at the earliest possible date. The Federal Trade Commission (FTC), while recognizing the establishment of a credible system for grading bias and bias-belted tires as a substantial accomplishment, commented

that extension of the system to radial tires will be of special significance to the public. The FTC, the Center for Auto Safety (CFAS), and Consumer's Union noted the increasing share of the tire market represented by radial tires, which now account for approximately half of the replacement tire market and an even higher percentage of original equipment sales. CFAS noted that NHTSA's test data revealed significant differences in treadwear properties among radial tires of different manufacturers. In fact, it is likely, based on the data, that some radial tires may yield twice the mileage of those of other manufacturers.

CFAS and the City of Cleveland's Office of Consumer Affairs commented on the need, exemplified by the recent recall of 14.5 million radials by one domestic tire manufacturer, to make safety a factor in the purchase of radial tires. The City of Cleveland reported encountering consumer frustration with present tire marketing practices and expressed concern that inability on the part of consumers to ascertain the quality of tires they are buying may lead to careless and ill-advised purchasing decisions and unsafe operating practices. NHTSA agrees and has seen no new arguments that suggest Congress' directive for establishing a uniform system for grading motor vehicle tires should not be fulfilled by the contemplated method.

Extent of NHTSA Radial Tire Testing

General Motors Corporation and the Rubber Manufacturers Association (RMA) contended that NHTSA's tests of radial tire treadwear were inadequate as a basis for extension of the UTQG regulation to radial tires. General Motors argued that radial tire treadwear does not become constant after tires are broken in, but continues to vary upward and downward, as evidenced by comparing adjusted wear rates in the final 6,400 miles of NHTSA's 38,400-mile radial tire treadwear test with the averages of adjusted wear rates from several 6,400-mile test series. The RMA stated its position that radial tire wear rates continue to decline in the later stages of tire life, pointing to NHTSA and RMA test data on the subject. Both General Motors and the RMA contended that, given the nature of radial tire treadwear, NHTSA must test some radial

tires to actual wearout to confirm that treadwear projections based on 6,400-mile tests correlate closely with actual tire treadlife.

NHTSA has not suggested that radial tire treadwear is precisely constant after break-in. Rather the agency's position, as stated in Notice 28, is that radial tire treadwear after break-in can be adequately described by a straight line fitted to a series of data points representing tread depth against miles traveled, thereby providing an adequate basis for treadwear projections. Variations in wear rate of the type noted by General Motors and the RMA cause a sinuous fluctuation in wear pattern which can be closely approximated by a straight line projection of treadwear based on the first 6,400 miles of testing.

NHTSA chose not to run tested tires to actual wearout because such tests are expensive and time consuming, and accurate projections of treadlife are possible with tires which have substantial wear, but are not worn out. For these reasons, projecting radial tire treadlife from tests run short of wearout is common in the industry (e.g., "A Statistical Procedure for the Prediction of Tire Tread Wear Rate and Tread Wear Rate Differences" by Dudley, Bower, and Reilly of the Dunlop Research Centre) and is, the agency has concluded, a reliable means of determining tire treadwear properties of radial, bias, and bias-belted tires.

Accuracy of the Treadwear Grading Procedure for Radial Tires

General Motors, Michelin Tire Corporation, and the RMA commented that the existing UTQG procedures does not project the treadlife of radial tires with a sufficient degree of accuracy, based on the data submitted to the rulemaking docket in connection with Notice 28. General Motors and the RMA noted that treadwear projections calculated only from wear rates observed in the initial 6,400-mile test sequence differed in some cases by one or two UTQG grade levels from projections based on wear rates from later 6,400-mile test cycles or from averages of several test cycles. These commenters noted that the range of such differences was slightly higher when individual tires were compared rather than the averages of four-tire sets. Michelin expressed concern that the regulation would create an im-

pression of equality among tires which in reality vary in quality. General Motors suggested that projections based on later test cycles or averages established over a longer test period would provide a more accurate projection of actual tread-life.

NHTSA established the 6,400-mile test sequence, with an 800-mile break-in, after considering the adequacy of the data which could be obtained over that test distance and the expenditure of money and resources required for additional testing. The grades arrived at by projecting from later test series or combinations of series were generally consistent with the results obtained in the first 6,400 miles of testing, and those variations which did occur were relatively minor.

As noted by the U.S. Court of Appeals for the Sixth Circuit in *B. F. Goodrich Co. v. Department of Transportation*, 541 F.2d 1178 (1976), no system designed to grade millions of tires can be expected to approach perfection. Considering the present absence of tire quality information in the market place, the agency has concluded that the UTQG treadwear grading procedure provides reasonable accuracy when applied to radial tires and will be of significant value to tire consumers in making purchasing decisions.

General Motors commented that tire grades should be assigned based on the lowest mileage projected for any tire among a set of four candidate tires and not on the average projected mileage of a four tire set. The UTQG regulation states that each tire will be capable of providing at least the level of performance represented by the UTQG grades assigned to it. UTQG grades based solely on either average grade levels or on the projected mileage of a particular tested tire would not provide an adequate basis for consumer reliance on the grading information. In determining accurate treadwear grades for tire lines, manufacturers must consider the population variability evidenced in their tire testing.

Validity of the CMT Adjustment Procedure

The UTQG regulation accounts for environmental influences on candidate tire wear rates during testing by means of an adjustment factor derived by comparing the wear rates of concurrently run course monitoring tires (CMT's) with

an established CMT base course wear rate (BCWR) (49 CFR 575.104(d)(2)). In Notice 28, NHTSA explained how the same adjustment procedure could be used to correct for a measurement anomaly that generates the appearance of a higher wear rate for radial tires in the first 4,000 miles of testing following the 800-mile break-in. In response to Notice 28, CFAS reviewed the UTQG adjustment procedure, as it applies to radial tires, and commented that this procedure is the proper method for grading radials. However, Michelin and the RMA, in their comments on that notice, suggested that the CMT adjustment procedure may be invalid for radial tires, both in the context of wear rate changes and as a control on environmental factors.

The RMA argued that NHTSA has not provided supporting data for its theory that the shift in radial tire wear rate during the initial phases of treadlife is caused by changes in tire geometry as the tire attains its equilibrium shape. However, detailing the underlying mechanism of the apparent change in wear rate is incidental to the fact that radial tire wear rates do stabilize in a consistent fashion, permitting use of the CMT adjustment to project treadlife with reasonable accuracy.

The RMA contended that wear patterns of certain radial tires differ markedly from the apparent accelerated pattern observed by NHTSA during the first 4,000 miles of treadlife after the 800-mile break-in, and that NHTSA's test of several tire brands provided an inadequate basis to draw conclusions about radial tires in general. Michelin, although citing no data on the subject, commented that an accelerated wear pattern in the early stages of treadlife may not exist in all radial tires to the same degree.

NHTSA's test of radial tire treadwear, reported in Notice 28, included ten different tire brands, selected to include a wide range of prices and materials, as well as both domestic and foreign manufacture. This sample constitutes a reasonable and adequate basis upon which to draw conclusions concerning tires available on the American market. In spite of the wide variety of radial designs included in NHTSA's test, the agency found the wear rate patterns of the tires studied to be remarkably consistent in the initial

6,400-miles of testing, after the 800-mile break-in. This consistency is exemplified by treadwear projections in the paper "Test of Tread Wear Grading Procedure—the Course Monitoring Tire Adjustment on Radial Tire Wear Rates", by Brenner and Williams (Docket 25, General Reference No. 105), which compared estimates of tread life for nine sets of candidate tires based on data from the first 6,400 miles of testing after break-in, with estimates based on data from 6,400 to 38,400 miles of testing. The projections computed from these data sets did not differ significantly, indicating that the UTQG adjustment procedure accurately accounted for the initial wear rate characteristics of all tires tested.

Based on this test experience, the agency believes that the data from its tests and analysis of that data has demonstrated that the wear patterns exhibited by radial tires early in their treadlives are sufficiently consistent to permit accurate projection of treadwear based on the existing UTQG test procedure. NHTSA plans to closely monitor testing at the San Angelo course to insure that the UTQG test procedure accommodates future developments in tire technology and continues to provide an accurate basis for treadwear grading.

On the question of consistency beyond the initial 4,000 miles of testing, both Michelin and the RMA argued that not all tires tested by NHTSA responded to environmental factors in an identical manner, as demonstrated by comparing graphs of unadjusted candidate tire wear rates by test cycle with graphs of data from concurrently run CMT's. The RMA also noted that graphic representations of radial tire adjusted wear rates per test cycle were not always horizontal, but in some cases sloped somewhat upward or downward.

Close examination of the graphs of unadjusted candidate tire wear rates and CMT wear rates indicates that the wear rates fluctuated in a reasonably parallel fashion in all but an insignificant number of cases. NHTSA has never contended that every tire of every brand must behave in a perfectly consistent manner before a valid grading system can be established. NHTSA finds that the level of consistency exhibited by the tested tires is sufficient to confirm the validity of

the CMT approach as a reasonably fair and reasonably reliable means of radial tire grading.

With regard to the slope of the adjusted wear rate curves, NHTSA has applied a test of independence to this data to determine if the adjusted wear rates of the tested tires were dependent on the test cycle. In no case was the slope significantly different from zero at the 95 percent confidence level. In fact, of the curves which slanted to any measurable degree, sixteen had a slightly positive slope and seventeen had a slightly negative slope, as would be expected if the true slope were zero. This analysis suggests that CMT and candidate tires continue to wear in a consistent fashion beyond the initial phase of testing.

The RMA's comments suggest that some confusion may exist as to whether CMT's are to be reused for testing after an initial 6,400-mile test cycle after break-in. Since radial tires, including CMT's, exhibit an apparent change in wear pattern during this initial phase of treadlife, when measured by a tread depth gauge, the CMT adjustment procedure will be accurate only if new candidate tires are run with new CMT's so that the wear rate change occurs in all tires simultaneously.

Radial CMT's were run beyond the initial 6,400-mile cycle in NHTSA's testing announced in Notice 28, in order to provide an extended comparison of CMT's and candidate tires run concurrently. In its UTQG compliance testing, however, NHTSA will use new radial CMT's, broken-in in accordance with 49 CFR 575.104 (d) (2) (v), for each 6,400-mile test.

Also on the issue of the CMT adjustment procedure, the RMA commented that NHTSA's test data indicate a coefficient of variation (COV) for radial CMT's of over 5 percent, the standard upheld in the *B. F. Goodrich* case as the agency's target for the maximum permissible level of variability for these tires. Much of the data cited by the RMA on this point involved test cycles beyond the initial 6,400-mile cycle, after break-in. Data on the variability of CMT's at test distances beyond 6,400 miles, after break-in, are irrelevant to the UTQG system, since, as noted above, radial CMT's will not be reused after an initial 6,400-mile test cycle.

In examining data from the initial test cycle, the RMA combined wear rates from several test vehicles and then developed COV's from that data, thereby interjecting vehicle variability into the computation. Vehicle variability, while unrelated to the properties of the tire, has the effect of inflating coefficients of variation. When this extraneous factor is removed from the computation, the test data indicate a COV well within the acceptable 5 percent level.

Michelin expressed concern that running CMT's of a standard size with candidate tires of differing sizes may lead to inaccuracy in the adjustment of data. National Bureau of Standards Technical Note 486, "Some Problems in Measuring Tread Wear of Tires," by Spinner and Barton (Docket 25, General Reference No. 4), compared projected mileages for three sizes of radial and bias-ply tires of several manufacturers run under different road conditions. Data in the report suggest that tires of different sizes react similarly to differing external conditions. Therefore, the practical burden of providing a different CMT for each size of candidate tire may be avoided.

Finally, General Motors and the RMA asserted that, in order to facilitate comparisons among radial, bias, and bias-belted tires, BCWR's must be established by running the three types of CMT's concurrently to limit the influence of environmental variables on the test results. The RMA also contended that a BCWR cannot be established without running CMT's to actual wearout.

NHTSA established BCWR's through experience with tires of all three construction types in over 5 million tire miles of testing over a two year period. In the course of this extensive testing, each tire type can be expected to have encountered a random mix of environmental conditions resulting in a similar net impact on treadwear.

Other Comments

Michelin commented that the regulation's procedure of rotating tires among different positions on a test vehicle, but not between vehicles, precludes the detection of vehicle mechanical problems which could affect grading. Adequate preventive maintenance of test vehicles is the

primary safeguard against distortion of data by vehicle malfunctions. Additionally, an analysis of variance of the data obtained in a convoy or on a vehicle provides another effective method of detecting a malfunction. (See, "Elements in the Road Evaluation of Tire Wear", by Brenner and Kondo, Docket 25; General Reference No. 17). NHTSA does not believe that rotation of tires among vehicles would significantly improve on these existing techniques.

General Motors noted that several tires studied by NHTSA had to be removed from the test due to failure or uneven wear prior to actual wearout and suggested that the agency must account for these anomalies before proceeding with rulemaking.

Early in the course of rulemaking on UTQG, NHTSA concluded that considerations of cost and consumer understanding required some limitation on the number of grading categories in which UTQG information would be presented. Based on examination of numerous comments in the rulemaking docket, the agency concluded that treadwear, traction, and temperature resistance are the tire characteristics of greatest importance to consumers. For this reason, information on subjects such as evenness of tread wear and susceptibility to road hazard damage, while of value to consumers, is not provided under the regulation. NHTSA will consider General Motors comment, however, as a suggestion for possible future rulemaking.

The RMA noted several minor computational and other errors in the previously referred to paper by Brenner and Williams (Docket 25, General Reference No. 105), submitted to the docket in connection with Notice 28. Some of these errors were corrected by a subsequent submission to the docket (Docket 25, General Reference No. 105A). In any case, the errors were of a non-substantive nature and had no impact on the agency's rulemaking process and decisions.

Impact of the Thirty Day Stay of Effective Dates

On January 19, 1979, the U.S. Court of Appeals for the Sixth Circuit, in the case *B. F. Goodrich Co. v. Department of Transportation* (No. 78-3392), granted a thirty-day stay of the effective dates for application of the UTQG regu-

lation to bias and bias-belted tires. The regulation was scheduled to become effective March 1, 1979 for bias-ply tires and September 1, 1979 for bias-belted tires, with the exception of the sidewall molding requirements of paragraph (d)(1)(i)(A) and the first purchaser requirements of paragraph (d)(1)(iii) which were to become effective September 1, 1979 and March 1, 1980 for bias and bias-belted tires, respectively.

NHTSA interprets the Sixth Circuit's action as postponing the effective dates of the UTQG regulation one month to April 1, 1979 for bias-ply tires and October 1, 1979 for bias-belted tires. However, the effective dates for the molding requirements of paragraph (d)(1)(i)(A) and the first purchaser requirements of paragraph (d)(1)(iii) are postponed to October 1, 1979 for bias-ply tires and April 1, 1980 for bias-belted tires to allow manufacturers time to convert tire molds. This postponement of effective dates has been taken into account in establishing effective dates for application of the regulation to radial tires, to assure adequate lead time for completion of tire testing.

In accordance with Departmental policy encouraging adequate analysis of the consequences of regulatory actions, the agency has evaluated the anticipated economic, environmental and other consequences of extending the UTQG regulation to include radial tires and has determined that the impact of this action is fully consistent with impacts evaluated in July 1978 in establishing effective dates for bias and bias-belted tires. Based on the authority of Section 203 of the Act,

previous agency findings concerning required lead time for grading tires, and the decision of the U.S. Court of Appeals for the Sixth Circuit in *B. F. Goodrich*, the NHTSA hereby establishes radial tire effective dates consistent with the basic six-month phase-in schedule announced on July 17, 1978 (43 FR 30542) for bias and bias-belted tires.

In an unrelated matter, NHTSA's FEDERAL REGISTER notice announcing effective dates for application of the UTQG Standards to bias and bias-belted tires (43 FR 30542); July 17, 1978) contained an inadvertent error in use of the word "of" rather than the intended word "are" in the first sentence of the third section of Figure 2 of the regulation. This error is corrected by substitution of the word "are" in place of "of" in Figure 2.

In consideration of the foregoing, the Uniform Tire Quality Grading Standards (49 CFR 575.104), are amended

The program official and lawyer principally responsible for the development of this rulemaking document are Dr. F. Cecil Brenner and Richard J. Hipolit, respectively.

(Sec. 103, 112, 119, 201, 203; Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1407, 1421, 1423); delegation of authority at 49 CFR 1.50.)

Issued on March 9, 1979.

Joan Claybrook
Administrator

44 F.R. 15721-15724
March 15, 1979

PREAMBLE TO AN AMENDMENT TO PART 575—CONSUMER INFORMATION

Uniform Tire Quality Rating

(Docket No. 25; Notice 35)

ACTION: Final rule.

SUMMARY: This notice amends the Uniform Tire Quality Grading (UTQG) Standards through minor modifications in the format of tire tread labels used to convey UTQG information. The modifications are intended to assure that tires are labeled with the correct UTQG grades, to permit flexibility in the design of labels, and to facilitate consumer access to the grading information.

EFFECTIVE DATE: December 1, 1979.

FOR FURTHER INFORMATION CONTACT:

Dr. F. Cecil Brenner, Office of Automotive Ratings, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-1740).

SUPPLEMENTARY INFORMATION: On January 8, 1979, NHTSA published a request for public comment (44 F.R. 1814) on a petition for rulemaking submitted by Armstrong Rubber Company asking that the UTQG regulation be amended to permit tire grading information and explanatory material concerning the UTQG system to be furnished to consumers by means of two separate tire tread labels rather than the single label called for in the regulation (49 CFR 575.104(d) (1) (i) (B)). Armstrong, joined by Atlas Supply Company, contended that the chance of mislabeling tires would be reduced, if UTQG grades could be placed on the same label with tire identification information. However, practical limitations exist on the size of tread labels which can be effectively applied and retained on the tire tread surface. Some manufacturers reportedly encountered difficulty in fitting tire identification information, UTQG grades, and required UTQG explanatory information on a single label. For this reason, Armstrong and Atlas suggested that UTQG explanatory information be furnished on a

separate label adjacent to a label containing UTQG grades and tire identification information.

In view of the favorable comments received in response to NHTSA's request for comment on the Armstrong petition, the agency proposed to modify the tread label format requirements to employ a two-part label format (44 F.R. 30139; May 24, 1979). NHTSA proposed that Part I of the label contain a display of the UTQG grades applicable to the particular tire while Part II would contain the general explanation of the grading system. At the manufacturer's option Parts I and II could appear on separate labels. To assure that the labels would be legible to consumers, the notice also proposed requirements for orientation of the label text and minimum type size.

Commenters on the proposal were in general agreement that flexibility in the design of tire tread labels is a desirable goal. While some manufacturers expressed the opinion without explanation that two-part labels would be impractical for their operations, others welcomed the proposal as a means of dealing with label size limitations.

Some commenters favored retention of the original label format pointing out that the proposed label would be slightly longer than its predecessor and arguing that the proposed label would isolate the tire grades from the explanatory material. Some industry sources expressed the opinion that the proposed changes would be of no benefit to consumers.

NHTSA disagrees with these criticisms of the proposal. The new format should increase the length of the label by only a fraction of an inch, if at all, and should not pose a problem to manufacturers wishing to employ a single label. The separation of the grades from the explanatory material should not create confusion since the two

parts could be separated by no more than one inch in any case. The agency has reached the conclusion that displaying grades for all three performance categories together on Part I of the label will in fact benefit consumers by facilitating access to the information.

Maximum retainability will be assured with the new format since manufacturers may choose to employ two labels if they are unable to fit all of the necessary information on a single label of a manageable size. Similarly, the possibility of mislabeling will be reduced, because the two-part option makes it possible in all cases to include applicable UTQG grades on tire identification labels. For these reasons, NHTSA has determined to adopt the proposed two-part label format with minor modifications.

Several commenters suggested that orientation of the tread label text should not be specified in the regulation since flexibility in label design would be reduced by such a requirement. However, NHTSA has concluded that since most manufacturer's tire identification labels are arranged with lines of type running perpendicular to the tread circumference, tires are most likely to be displayed so that labels with this orientation will be easily readable by consumers. Therefore, the agency has chosen to retain the proposed requirement regarding label text orientation.

Goodyear Tire & Rubber Company suggested the possibility of printing Part I of the proposed label below Part II, when both parts are contained on a single tread label. NHTSA finds this suggestion unacceptable because the UTQG grades would be difficult to locate if preceded by a body of textual material.

Goodyear also commented on several occasions that specifying a minimum type size for the printing of labels would be of no benefit since many factors other than type size, such as letter style, spacing, and format, contribute to legibility. NHTSA agrees that a minimum type size requirement alone is insufficient to assure the readability of labels. For this reason, NHTSA has chosen to withdraw its proposed minimum type size requirement at this time. The agency will, however, continue to monitor industry compliance with the labeling requirements to ascertain whether a comprehensive set of requirements is necessary to assure that tread labels will be legible to consumers.

The agency has found considerable merit in another Goodyear suggestion, to delete the range of possible grades adjacent to the categories "TRACTION" and "TEMPERATURE" on Part II of the label. These letters were originally included on the label to provide a display on which the grade attributable to a particular tire could be marked. Since grades will now be marked on Part I of the label, the range of possible grades in Part II is superfluous and has been deleted from the required format. If, however, manufacturers wish to display the array of grades on both Part I and Part II of their labels, NHTSA has no objection to this practice.

Goodyear was joined by General Tire & Rubber Company in requesting that NHTSA clarify whether the three category headings, "TREADWEAR," "TRACTION," and "TEMPERATURE," in Part I of the proposed label must be laid out side by side, across the label, or one below the other, down the label. In the interest of flexibility, the regulation makes either of these layouts acceptable, although the relative order of the categories must be maintained to permit easy reference to the explanatory material.

Similarly, several manufacturers recommended that the regulations permit grades to be displayed either to the right of or directly below the grading category to which they apply. Again, to facilitate efficient label design, the regulation permits the use of either of these locations for the display of grades.

Industry commenters asked that NHTSA clarify whether the use of lower case letters in the label text, as set out in Figure 2 of the regulation, precludes manufacturers from printing labels using all capital letters in the label text. The regulation has been modified to permit the optional use of all capital letters in printing the text of Figure 2.

NHTSA wishes to confirm Firestone Tire & Rubber Company's understanding that the words "Part I" and "Part II" appearing in Figure 2 as proposed are for reference purposes only and need not be printed on the tread label. General and the Rubber Manufacturers Association called NHTSA's attention to certain typographical errors in the proposed Figure 2 text, which have been corrected in the amendment as adopted.

Several manufacturers suggested that the original label format be permitted as an option, or

that, as a minimum, waste be avoided by allowing labels printed with the original format to be used up regardless of the adoption of a new label format. NHTSA considers the new two-part label format to be superior to the original format in terms of clarity and readability. Therefore, the agency has concluded that universal conversion to the new format is desirable. However, since manufacturers have expended significant resources in efforts to comply with the original labeling requirement, NHTSA will permit the use of labels employing the original format, at the manufacturers option, until October 1, 1980. This period of flexibility should permit any labels already printed to be used up and allow a smooth transition to the new format.

Since this amendment will increase manufacturers' flexibility in complying with the UTQG

labeling requirements, and since the transition to the new labeling format will be phased in so as to avoid economic waste, the agency has found that this notice does not have significant impact for purposes of internal review. In view of the fact that some manufacturers may still be in the process of obtaining labels for their bias-belted tire lines, this amendment will become effective December 1, 1979.

Issued on November 20, 1979.

Joan Claybrook,
Administrator
44 F.R. 68475
November 29, 1979

PREAMBLE TO AN AMENDMENT TO PART 575—CONSUMER INFORMATION

Uniform Tire Quality Rating

(Docket No. 25; Notice 37)

ACTION: Final rule; correction.

SUMMARY: This notice corrects an inadvertent error in the text of the National Highway Traffic Safety Administration's (NHTSA) final rule modifying the tread label format used under the Uniform Tire Quality Grading (UTQG) Standards (49 CFR 575.104).

SUPPLEMENTARY INFORMATION: On November 29, 1979, NHTSA published a notice (44 F.R. 68475) making minor modifications in the final format of tire tread labels used to convey UTQG information to consumers. That notice contained an inadvertent error in the text of Figure 2 of the regulation in that the words "one and one-half" were substituted for the words "one and a half" under the heading "Treadwear" in Part II of the tread label text. The notice is therefore revised to reflect the intended wording.

F.R. Doc. 79-36522 appearing at 44 F.R. 68475 is corrected at page 68477 in the third column as follows:

Figure 2, Part II of the Uniform Tire Quality Grading Standards, 49 CFR 575.104, is corrected by substitution of the words "one and a half" in place of the words "one and one-half" under the heading "Treadwear".

Issued on January 22, 1980.

Michael M. Finkelstein,
*Associate Administrator
for Rulemaking*

**45 F.R. 6947
January 31, 1980**

PREAMBLE TO PART 575—CONSUMER INFORMATION REGULATIONS UNIFORM TIRE QUALITY GRADING

(Docket No. 25; Notice 38)

ACTION: Interpretation.

SUMMARY: This notice clarifies the procedure to be used under the Uniform Tire Quality Grading (UTQG) Standards in measuring tread depth of tires without circumferential grooves or with a limited number of grooves. The regulation's provision for measurement of tread depth in tire grooves has given rise to questions concerning the proper means of measurement for such tires. This notice is intended to facilitate testing of tires of this type.

EFFECTIVE DATE: This interpretation is effective immediately.

FOR FURTHER INFORMATION CONTACT:

Mr. Richard Hipolit, Office of the Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-1834).

SUPPLEMENTARY INFORMATION:

The UTQG Standards (49 CFR 575.104) require the grading of passenger car tires on three performance characteristics: treadwear, traction and temperature resistance. In setting forth the procedure to be followed in evaluating treadwear performance, the regulation states that, after an 800-mile break-in, tires are to be run for 6,400 miles over a designated course, with tread depth measurements to be taken every 800 miles. The regulation specifies that tread depth is measured at six equally spaced points in each tire groove other than shoulder grooves, avoiding treadwear indicators. Tire grooves are typically arranged symmetrically around the center of the tread.

On May 24, 1979, the National Highway Traffic Safety Administration (NHTSA) published in the *Federal Register* (44 FR 30139) an interpretation that tires designed for year round use do not qualify as "deep tread, winter-type snow tires,"

which are excluded from the coverage of the UTQG regulation by 49 CFR 575.104(c). In response to this interpretation, the Goodyear Tire & Rubber Company commented to NHTSA (Docket 25; Notice 32-011) that a technical problem may exist in the measurement of tread depth of tires for year round use since circumferential grooves are absent in the designs of many such tires.

NHTSA is aware that certain other standard tire designs, as well as year round designs, may incorporate lugs, discontinuous projections molded in the tread rubber, separated by voids, in place of ribs defined by circumferential grooves. In other cases, the limited number of grooves on the tire could lead to inaccurate results if measurements were made in only those grooves.

To assure accurate tread depth measurements on tires lacking circumferential grooves, and tires with fewer than four grooves, measurements are to be made along a minimum of four circumferential lines equally spaced across the tire tread surface. These lines are to be symmetrically arranged around a circumferential line at the center of the tread. The outermost line on each side of the circumferential tread centerline is to be placed within one inch of the shoulder.

Measurements are to be made at six equally spaced points along each line. If the design of the tire is such that, on a particular circumferential line, six equally spaced points do not exist at which groove or void depth exceeds by $\frac{1}{16}$ th of an inch the distance from the tread surface to the tire's treadwear indicator, measurements are not to be taken along that line. If measurements cannot be taken on four equally-spaced, symmetrically-arranged lines, the requirement for equal spacing does not apply. Measurements in that case are to be taken along a minimum of four lines, with an equal number of symmetrically arranged measured lines on either side of the tread centerline.

NHTSA recognizes that, due to the implementation schedule of the regulation, certain manufacturers may have already conducted treadwear tests on tires falling within the scope of this interpretation. The Agency does not object to the use in grading of treadwear data generated prior to the publication date of this notice, if such data was acquired using a test method varying only in minor, non-substantive respects from the method described in this interpretation.

The principal author of this notice is Richard J. Hipolit of the Office of Chief Counsel.

Issued on March 24, 1980.

Joan Claybrook
Administrator

45 F.R. 23441
April 7, 1980

PREAMBLE TO AMENDMENTS TO PART 575—CONSUMER INFORMATION REGULATIONS; UNIFORM TIRE QUALITY GRADING

(Docket No. 25; Notice 39)

ACTION: Final Rule.

SUMMARY: This notice amends the Uniform Tire Quality Grading (UTQG) Standards to exclude from the requirements of the regulation tires produced in small numbers, which are not recommended for use on recent vehicle models. The amendment is intended to reduce costs to consumers and reduce regulatory burdens on industry in an area where the purchase of tires based on comparison of performance characteristics is limited.

EFFECTIVE DATE: This amendment is effective immediately.

FOR FURTHER INFORMATION CONTACT:

Dr. F. Cecil Brenner, Office of Automotive Ratings, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-1740).

SUPPLEMENTARY INFORMATION:

The UTQG Standards 49 CFR § 575.104 are intended to enable consumers to make an informed choice in the purchase of passenger car tires through the use of comparative performance information relating to tire treadwear, traction and temperature resistance. The standards apply to new pneumatic tires for use on passenger cars manufactured after 1948. Deep tread, winter-type snow tires, space-saver or temporary use spare tires, and tires with nominal rim diameters of 10 to 12 inches have been excluded from the application of the regulation (49 CFR § 575.104(c)).

Several tire manufacturers and dealers have informed the National Highway Traffic Safety Administration (NHTSA) that a small class of tires exists for which marketplace competition based on performance characteristics is extremely limited. These tires, which are purchased for use on vehicles manufactured after 1948 but nonetheless

considered by their owners to be classic or antique, are produced in small numbers in a wide variety of designs and sizes. Purchasers of these tires are reportedly concerned primarily with appearance, authenticity, and availability rather than tire performance.

Information supplied by Intermark Tire Company indicates that a similar limited market exists for tires used on older vehicles requiring tire sizes no longer employed as original equipment on new vehicles. Intermark petitioned NHTSA to remove these tires from the coverage of the regulation on the basis that little market competition exists in their sale and that availability is the primary factor in the purchase of this class of tire.

In order to reduce costs to consumers and eliminate the need for industry to grade the multiplicity of small lines of tires in which comparative performance information would have limited value, NHTSA published a notice proposing to remove certain limited production tires from the application of the UTQG regulation (45 FR 807; January 3, 1980). Four criteria, were specified to define limited production tires. First the annual production by the tire's manufacturer of tires of the same design and size could not exceed 15,000 tires. Second, if the tire were marketed by a brand name owner, the annual purchase by the brand name owner could not exceed 15,000 tires. Third, the tire's size could not have been listed as a manufacturer's recommended size designation for a new motor vehicle produced or imported into this country in quantities greater than 10,000 during the preceding calendar year. Fourth, the annual production by the tire's manufacturer, or the total annual-purchase by the tire's brand name owner, if applicable, of different tires otherwise meeting the criteria for limited

production tires could not exceed 35,000 tires. The proposal also clarified that differences in design would be determined on the basis of structural characteristics, materials and tread pattern, rather than cosmetic differences.

Commenters on the proposal, including the Rubber Manufacturers Association, the National Tire Dealers and Retreaders Association, Dunlop Limited, Intermark, Kelsey Tire Company and McCreary Tire and Rubber Company agreed that tire quality grading should not be required for limited production tires. Among the reasons stated for support of the proposal were expected cost savings to industry and the consumer and the special consideration affecting the purchase of these tires. After consideration of these comments, the agency has adopted the proposed amendment with minor modification.

Intermark pointed out a possible anomalous situation which could result from the wording of subparagraph (c) (2) (iv) of the proposal. That provision placed a 35,000 tire limit on a manufacturer's total annual production of tires meeting the limited production criteria, *or*, in the case of tires marketed under a brand name, on the total annual purchase of limited production tires by a brand name owner. Thus, under this commenter's reading of (c) (2) (iv), 40,000 tires meeting the criteria of subparagraphs (c) (2) (i), (ii), and (iii) could be produced by a manufacturer, sold in groups of 10,000 to four different brand name owners, and still qualify as limited production tires. At the same time, another manufacturer could produce 40,000 tires meeting the first three criteria for sale in its own company outlets and be required to grade the tires. To make it clear that the 35,000 tire limitation on a manufacturer's production applies whether or not the tires are marketed by a brand name owner, subparagraph (c) (2) (iv) has been modified by substituting the word "and" for "or."

Kelsey Tire Company asked how the criteria would apply to tires which are produced abroad in large numbers but are imported in quantities which would fall within the unit limitations of subparagraphs (c) (2) (i), (ii), and (iv) of the proposal. To make clear that the criteria are to be applied to foreign tires only insofar as they are imported in this country, subparagraphs (c) (2) (i) and (iv) have been modified to refer to "annual domestic production or importation into the United States by the tire's

manufacturer." The reference to "importation . . . by the tire's manufacturer" includes in the total all tires entering the United States for sale under the name of the manufacturer, regardless of the shipping or title arrangements made by the manufacturer with distributors. Similarly, subparagraphs (c) (2) (ii) and (iv) have been modified to clarify the status of tires purchased by brand name owners.

McCreary and Intermark argued that the unit restrictions on production of tires meeting the criteria are too restrictive and should be eliminated or eased significantly. McCreary predicted that the total number of classic car tires produced by individual manufacturers will grow, although production runs of individual designs and sizes will remain small. Intermark contended that production limitations unfairly penalize efficient manufacturers and that a new vehicle recommended size designation provision such as proposed subparagraph (c) (2) (iii) would be sufficient to define the intended class of limited production tires.

NHTSA considers the stated limitations broad enough to encompass the "classic" car tire market as it is presently constituted. With regard to the larger production runs of tires in outdated sizes, NHTSA believes that the production of tires in numbers greater than the proposed limitations is suggestive of wider availability and resulting increased competition which would make UTQG information of greater value. Further, relaxing or eliminating unit restrictions could result in the exclusion from the application of the standard of high performance or racing tires which are not recommended as original equipment. The agency believes that comparative tire grading information should be available to purchasers of tires of this type. NHTSA will monitor the limited production tire market to determine whether future market changes require revision of the 35,000 tire limitation.

Pursuant to E.O. 12044, "Improving Government Regulation," and implementing departmental guidelines, the agency has considered the effects of this amendment. It reaffirms its earlier determination that the amendment is not significant and that the effects are so minimal as not to warrant preparation of a regulatory evaluation. NHTSA has determined that these amendments will result in modest cost savings to industry and consumers, while having no appreciable effect on safety or the environment.

Because this amendment relieves a restriction and because the agency desires to minimize any possible interruption in tire production pending the effective date of this amendment, the amendment is effective immediately.

In consideration of the foregoing, 49 CFR § 575.104(c) is amended to read:

§ 575.104 Uniform tire quality grading standards.

* * * * *

(c) *Application.*

(1) This section applies to new pneumatic tires for use on passenger cars. However, this section does not apply to deep tread, winter-type snow tires, space-saver* or temporary use spare tires, tires with nominal rim diameters of 10 to 12 inches, or to limited production tires as defined in paragraph (c) (2) of this section.

(2) "Limited production tire" means a tire meeting all of the following criteria, as applicable:

(i) The annual domestic production or importation into the United States by the tire's manufacturer of tires of the same design and size as the tire does not exceed 15,000 tires;

(ii) In the case of a tire marketed under a brand name, the annual domestic purchase or importation into the United States by a brand name owner of tires of the same design and size as the tire does not exceed 15,000 tires;

(iii) The tire's size was not listed as a vehicle manufacturer's recommended tire size designation for a new motor vehicle produced in or imported into the United States in quantities greater than 10,000 during the calendar year preceding the year of the tire's manufacture; and

(iv) The total annual domestic production or importation into the United States by the tire's manufacturer, and in the case of a tire marketed under a brand name, the total annual domestic purchase or purchase for importation into the United States by the tire's brand name owner, of tires meeting the criteria of subparagraphs (c) (2) (i), (ii), and (iii) of this section, does not exceed 35,000 tires.

Tire design is the combination of general structural characteristics, materials, and tread pattern, but does not include cosmetic, identifying or other minor variations among tires.

The principal authors of this notice are Dr. F. Cecil Brenner of the Office of Automotive Ratings and Richard J. Hipolit of the Office of Chief Counsel.

Issued on March 24, 1980.

Joan Claybrook
Administrator

**45 F.R. 23442
April 7, 1980**



PREAMBLE TO AN AMENDMENT TO PART 575

ACTION: Final rule.

SUMMARY: This notice amends the Consumer Information Regulations by deletion of the requirement that manufacturers supply information on acceleration and passing ability to vehicle first purchasers and prospective purchasers. The notice also revises the timing of manufacturers' submissions of performance data to the National Highway Traffic Safety Administration (NHTSA). These modifications, which were proposed in response to a General Motors Corporation petition for rule-making, are intended to lessen regulatory burdens on industry, while providing performance data in a manner more useful to consumers.

EFFECTIVE DATES: The amendment of section 575.6(d) is effective June 1, 1981. The deletion of section 575.106 is effective immediately, July 7, 1980.

FOR FURTHER INFORMATION CONTACT:

Ivy Baer, Office of Automotive Ratings,
National Highway Traffic Safety
Administration, 400 Seventh Street,
S.W., Washington, D.C. 20590 (202-426-1740)

SUPPLEMENTARY INFORMATION: The Consumer Information Regulations (49 CFR Part 575) provide first purchasers and prospective purchasers with performance information relating to the safety of motor vehicles and tires. This information is intended to aid consumers in making comparative purchasing decisions and in the safe operation of vehicles. General Motors Corporation petitioned NHTSA to delete requirements for consumer information on passenger car and motorcycle stopping distance (49 CFR 575.101), passenger car tire reserve load (49 CFR 575.102), and passenger car and motorcycle acceleration and passing ability

(49 CFR 575.106), on the basis that this information is of limited value to consumers. In response to this petition, NHTSA proposed (44 FR 15748; March 15, 1979) to delete the requirement for acceleration and passing ability information and to limit the application of the tire reserve load provisions to vehicles with significant cargo capacity, thus dropping the requirement for most passenger cars. NHTSA also proposed that vehicle manufacturers submit performance data to the agency at least 90 days before model introduction, compared to the 30-day advance submission which had been required (49 CFR 575.6).

Timing of Data Submission

The primary purpose of the advance submission to NHTSA is to permit the agency to compile and disseminate performance data in a comparative format for use by prospective vehicle purchasers. A major criticism of the consumer information program in the past has been that comparative information reached the consumer too late in the model year to be of real value in choosing between competing vehicles. A 90-day advance submission would permit the agency to assemble and distribute comparative information early in the model year, when it would be of greatest value to consumers.

Some industry commenters questioned the need for earlier submission of data on the basis that agency delays in publishing the data will result in comparative information being available late in the model year, in spite of the earlier submission. Other manufacturers argued that consumer interest in the information is limited in any case. General Motors suggested that vehicle design changes during the model year rapidly outdate the information, further limiting its value.

However, the Center for Auto Safety (CFAS) commented that it receives numerous requests

from consumers for comparative information on motor vehicles. CFAS also pointed out the popularity of comparative motor vehicle information on the rare occasions when such information is made available by independent publishers. NHTSA has concluded that consumer interest in comparative performance information would be substantial if the information were made available in a timely manner. Further, NHTSA has determined that few running design changes during the model year are so major as to significantly affect the performance characteristics covered by the consumer information regulations.

The success of the Environmental Protection Agency in publishing its popular fuel economy guides in a timely manner indicates that publication of vehicle information by NHTSA early in the model year is practical. However, based on past experience, it appears that a 90-day advance submission is the minimum leadtime necessary for NHTSA to publish and distribute the information.

Some manufacturers indicated they may have difficulty providing accurate performance information 90 days in advance of model introduction due to the possibility of last minute design changes. However, American Motors Corporation commented that a 90-day advance submission requirement would pose no problem at new model introduction, although it would inhibit running changes during the model year. In view of the importance of supplying comparative information early in the model year, NHTSA has adopted the proposed 90-day advance submission requirement for model introduction. However, to avoid delaying the introduction of product improvements, the 30-day notice period has been retained for changes occurring during the model year.

Tire Reserve Load

In response to General Motors' petition, NHTSA proposed modifying the tire reserve load information requirement to limit its application to trucks and multipurpose passenger vehicles with a gross vehicle weight rating of 10,000 pounds or less, and to passenger cars with a maximum cargo capacity of 25 cubic feet or more. The regulation had applied to all passenger cars, but not to trucks or multipurpose passenger vehicles.

Comments from many industry and consumer sources recommended deleting the tire reserve load information requirement completely. CFAS

commented that consumer interest in tire reserve load information has been limited. Many comments from car, truck and recreational vehicle manufacturers expressed concern that presenting information on tire reserve load may encourage vehicle overloading by misleading consumers into thinking that vehicles have additional load carrying capacity. Several commenters suggested that Federal Motor Vehicle Safety Standards 110 and 120 provide the appropriate means of ensuring that vehicles are equipped with tires of adequate size and load rating.

A recent study conducted for NHTSA (Docket 79-02, Notice 1-016) indicates that tire reserve load is an important factor in preventing passenger car tire failure. Additional information is being gathered on this subject and the agency is planning to propose amendment of Federal Motor Vehicle Safety Standard 110 to require a minimum tire reserve load on passenger cars. Preliminary analysis suggests that a tire reserve load percentage of 10% or greater is necessary to provide an adequate safety margin.

NHTSA has found that presently available information is not sufficient to justify extension of the tire reserve load requirements to light trucks and multipurpose passenger vehicles at this time. However, in view of the safety implications of tire reserve load for passenger cars and in the absence of a requirement for minimum tire reserve load, NHTSA believes that information on this subject should be available to passenger car purchasers and owners. The agency has concluded that provision of tire reserve load information in its present form does not encourage vehicle overloading, since a warning against loading vehicles beyond their stated capacity must accompany the information.

For these reasons, NHTSA has determined that the existing requirement for tire reserve load information must remain in effect at least until the completion of rulemaking on the possible amendment of Federal Motor Vehicle Safety Standard 110. If the provision of tire reserve load information no longer appears necessary then, the agency will reconsider the status of tire reserve load as a consumer information item. At this time, however, NHTSA withdraws the proposal to modify the tire reserve load consumer information requirements.

Acceleration and Passing Ability

The final aspect of NHTSA's proposal was dele-

tion of acceleration and passing ability (49 CFR 575.106) from the consumer information requirements. The acceleration and passing ability provision required information on the distance and time needed to pass a truck traveling at 20 mph and at 50 mph. The passing vehicle was permitted to attain speeds of up to 35 mph and 80 mph in the respective maneuvers.

In proposing deletion of this requirement, NHTSA felt that the national interest in energy conservation had substantially diminished consumer demand for rapid acceleration capability. Further, the high speed driving permitted by the test procedures appeared to contradict the safety and energy saving policies behind the national 55-mph speed limit. Commenters on the proposal, including American Motors, CFAS, General Motors and Volkswagen of America, unanimously agreed that the acceleration and passing ability provision was no longer of interest to consumers and had become inconsistent with national goals. Section 575.106 has, therefore, been deleted from the consumer information regulations.

NHTSA's regulatory evaluation, conducted pursuant to E.O. 12044, "Improving Government Regulations" and departmental guidelines, indicates that the amendments are not significant. They decrease the regulatory burden on industry, while having no appreciable negative impact on safety. A copy of the regulatory evaluation can be obtained from the Docket Section, Room 5108, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590. Also, the amendments will have no measurable effect on the environment.

Because the amendments as they pertain to acceleration and passing ability relieve a restriction, and to avoid any unnecessary costs in complying with this requirement, the deletion of section 575.106 is effective immediately. So that useful performance information can be provided to consumers for model year 1982 vehicles, the amendment to section 575.6 is effective June 1, 1981.

In consideration of the foregoing, 49 CFR Part

575, Consumer Information Regulations, is amended as follows:

1. Section 575.6(d) is amended to read:

§575.6 Requirements

* * * * *

(d) In the case of all sections of Subpart B, other than §575.104, as they apply to information submitted prior to new model introduction, each manufacturer of motor vehicles shall submit to the Administrator 10 copies of the information specified in Subpart B of this part that is applicable to the vehicles offered for sale, at least 90 days before it is first provided for examination by prospective purchasers pursuant to paragraph (c) of this section. In the case of §575.104, and all other sections of Subpart B as they apply to post-introduction changes in information submitted for the current model year, each manufacturer of motor vehicles, each brand name owner of tires, and each manufacturer of tires for which there is no brand name owner shall submit to the Administrator 10 copies of the information specified in Subpart B of this part that is applicable to the vehicles or tires offered for sale, at least 30 days before it is first provided for examination by prospective purchasers pursuant to paragraph (c) of this section.

2. Section 575.106 is deleted.

The principal authors of this proposal are Ivy Baer of the Office of Automotive Ratings and Richard J. Hipolit of the Office of the Chief Counsel.

Issued on July 7, 1980.

Joan Claybrook
Administrator

45 FR 47152
July 14, 1980



PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations Uniform Tire Quality Grading (Docket No. 25; Notice 4)

ACTION: Final rule.

SUMMARY: This notice amends the Uniform Tire Quality Grading (UTQG) Standards to provide for the testing of metric tires, tires with inflation pressures measured in kilopascals. Since the original UTQG test requirements were written prior to the introduction of metric tires and specified inflation pressures measured in pounds per square inch, modification of the regulation is now necessary to identify inflation pressures applicable to metric tires. The notice also makes technical changes in the UTQG traction test procedure to facilitate efficient use of test facilities.

EFFECTIVE DATE: The amendments are effective immediately.

FOR FURTHER INFORMATION CONTACT:

Dr. F. Cecil Brenner, Office of Automotive Ratings, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590, 202-426-1740

SUPPLEMENTARY INFORMATION: The UTQG standards prescribe test procedures for evaluation of the treadwear, traction, and temperature resistance properties of passenger car tires. Grades based on these are used by consumers to evaluate the relative performance of competing tire lines. Test procedures for all three performance categories were established specifying inflation pressures in pounds per square inch.

Following the introduction of metric tires with inflation pressures measured in kilopascals, the National Highway Traffic Safety Administration (NHTSA) recognized the need to add metric inflation pressures to the UTQG test procedures. The agency proposed (44 F.R. 56389; October 1, 1979; Notice 34) that for purposes of traction testing,

metric tires would be inflated and tire loads determined using a prescribed inflation pressure of 180 kPa. Under the proposal, other tires would continue to be tested at an inflation pressure of 24 psi. NHTSA's notice also proposed modification of the temperature resistance test procedure to provide, in the case of metric tires, for use of inflation pressures 60 kPa less than the tires' maximum permissible inflation pressure.

In response to comments, NHTSA modified the original proposal (45 F.R. 35408; May 27, 1980; Notice 40) to include treadwear testing in the proposed modifications and to incorporate a table indicating treadwear, traction, and temperature resistance test inflation pressures for tires with various maximum permissible inflation pressures in kilopascals and pounds per square inch. In the proposed table, different test inflation pressures were specified for tires with differing maximum permissible inflation pressures.

The agency also proposed, in Notice 34, modification of the traction test procedure to permit the adjustment of candidate tire test results with standard tire results obtained either before or after the candidate tire test sequence, so long as all data to be compared were collected within the same two-hour period. This change was intended to promote efficient use of the traction test facilities by permitting data from more than one candidate tire test sequence to be adjusted by comparison with the same standard tire sequence.

Upon examination of additional data, NHTSA concluded that a three-hour period could be employed without affecting the accuracy of the test results. Use of a three-hour period would permit more than one candidate tire test sequence to be run both before and after the corresponding standard tire test sequence. A three-hour period for comparative testing was proposed in Notice 40. Having received no negative comments on the

traction test sequence proposal as stated in that notice, NHTSA has determined that the amendment will be adopted as proposed.

On the proposed changes to provide for testing of metric tires, Goodyear Tire & Rubber Company noted that the table of test inflation pressures proposed in Notice 40 calls for variations in the prescribed test inflation pressure depending on the maximum permissible inflation pressure of the tested tire. The original traction procedure specified a single test inflation pressure for all tires. Goodyear expressed concern that such a change could affect test results and, consequently, tire grades, and require wasteful additional testing to confirm grades already assigned. Goodyear recommended that NHTSA adopt the amendment proposed in Notice 34 that all metric tires be tested using the inflation pressure 180 kPa and all other tires be tested using the original 24 psi inflation pressure.

NHTSA agrees that unnecessary costs associated with the UTQG Standard should be avoided. For this reason, the agency has determined that reference to traction testing will be deleted from the table of test inflation pressures, and the addition of the metric traction test inflation pressure of 180 kPa proposed in Notice 34 will be adopted instead. Those aspects of Notice 40 pertaining to treadwear and temperature resistance testing of metric tires will be adopted as proposed in that notice.

Pursuant to Executive Order 12044, "Improving Government Regulations," and implementing Departmental guidelines, the agency has considered the effects of these amendments. NHTSA reaffirms its earlier determination that the amendments are not significant and that the effects are so minimal as not to warrant preparation of a regulatory evaluation. NHTSA has determined these amendments will result in modest cost savings to industry and consumers, while having no appreciable effect on safety or the environment.

Because these amendments will facilitate the efficient and accurate completion of testing presently underway, the amendments are effective immediately.

In consideration of the foregoing, 49 CFR §575.104 is amended as follows:

1. In section 575.104(e)(2)(ii) by substitution of

the words "the applicable pressure specified in Table 1 of this section," in place of the words "an inflation pressure 8 pounds per square inch less than its maximum permissible inflation pressure."

2. In section 575.104 (f) (2) (i) (B) and (D) by addition of the words, "or, in the case of a tire with inflation pressure measured in kilopascals, to 180 kPa" following the words "to 24 psi."

3. In section 575.104(f)(2)(vii) by addition of the following sentence, at the end thereof: "The standard tire traction coefficient so determined may be used in the computation of adjusted traction coefficients for more than one candidate tire."

4. In section 575.104 (f)(2)(viii) by addition of the words, "or, on the case of a tire with inflation pressure measured in kilopascals, the load specified at 180 kPa," following the words "at 24 psi," and by addition of the sentences, "Candidate tire measurements may be taken either before or after the standard tire measurements used to compute the standard tire traction coefficient. Take all standard tire and candidate tire measurements used in computation of a candidate tire's adjusted traction coefficient within a single three hour period" following the first sentence thereof.

5. In section 575.104 (g) (1) by substitution of the words "the applicable pressure specified in Table 1 of this section," in place of the words "2 pounds per square inch less than its maximum permissible inflation pressure."

6. In section 575.104(g)(3) by substitution of the words "the applicable pressure specified in Table 1 of this section," in place of the words "2 pounds per square inch less than the maximum permissible inflation pressure."

7. In section 575.104(g)(6) by substitution of the words "applicable inflation pressure specified in Table 1 of this section," in place of the words "inflation pressure that is 8 pounds per square inch less than the tire's maximum permissible inflation pressure."

8. In section 575.104(g)(8) by substitution of the words "the applicable pressure specified in Table 1 of this section," in place of the words "2 pounds per square inch less than that the tire's maximum permissible inflation pressure."

9. By addition of the following table at the conclusion of the text of that section:

Table 1.—Test Inflation Pressures

Maximum permissible inflation pressure	32 lb/in ²	36 lb/in ²	40 lb/in ²	240 kPa	280 kPa	300 kPa
Pressure to be used in tests for treadwear and in determination of tire load for temperature resistance testing.	24	28	32	180	220	180
Pressure to used for all aspects of temperature resistance testing other than determination of tire load.	30	34	38	220	260	220

The principal authors of this notice are Dr. F. Cecil Brenner of Office of Automotive Ratings and Richard J. Hipolit of the Office of Chief Counsel.

Issued on October 15, 1980.

Joan Claybrook
Administrator

45 FR 70273
October 23, 1980

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations; Uniform Tire Quality Grading

(Docket No. 25; Notice 45)

ACTION: Final rule.

SUMMARY: This notice amends the Uniform Tire Quality Grading Standards to permit tire grades to be molded on the tire sidewall beginning at any time up to six months after introduction of a new tire line. This amendment, which was proposed in response to a petition from Atlas Supply Company, is intended to avoid disruption of production while tire grades are determined. The notice also extends the deadline for conversion to new format tire tread labels in order to permit unused supplies of old-format labels to be used up.

EFFECTIVE DATE: August 15, 1981.

SUPPLEMENTARY INFORMATION:

Background

On January 26, 1981, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking (46 F.R. 8063; Docket 25, Notice 44) proposing amendment of the sidewall molding and tread labeling requirements of the Uniform Tire Quality Grading (UTQG) Standards (49 CFR 575.104). In response to a petition for rulemaking filed by Atlas Supply Company, NHTSA proposed a four month phase-in period for molding of UTQG grades on the sidewalls of tires of newly introduced tire lines. Under the regulation as originally issued, all covered tires were required to have UTQG grades molded on the sidewall (49 CFR 575.104(d)(1)(i)(A)). Atlas, with

support from the Goodyear Tire & Rubber Company and the General Tire & Rubber Company, requested that initial production runs of new tire lines be exempted from the molding requirement pending determination of UTQG grades.

The notice of proposed rulemaking also responded to a petition for rulemaking submitted by Armstrong Rubber Company. Armstrong had requested that the deadline for conversion to the new UTQG tread label format established in Docket 25, Notice 35 (44 F.R. 68475; November 29, 1979) be extended at least nine months to permit supplies of old-format labels to be used up. In response to Armstrong's petition, NHTSA proposed that the deadline for conversion to the new format be extended from October 1, 1980, until April 1, 1982.

As indicated in the Notice of Intent published by NHTSA on April 9, 1981, (46 F.R. 21203), NHTSA is currently reviewing the requirements of the Uniform Tire Quality Grading System regulatory program, to determine the degree to which it accurately and clearly provides meaningful information to consumers in accordance with the requirements of 15 U.S.C. 1423. Proposed rulemaking or further action on this question will be published within thirty days of this notice.

Proposed Rulemaking—Decision

NHTSA received several comments from tire and motor vehicle manufacturers on the proposed amendments. After review of these comments, the agency has concluded that,

while amendment of the regulation is warranted, several changes in the specifics of the proposal are desirable.

Proposed Rulemaking—Comments

Support for the concept of a temporary exemption from the UTQG molding requirements for new tire lines was indicated by both tire and motor vehicle industry sources. The Rubber Manufacturers Association (RMA) commented that such an exemption would resolve difficulties associated with grading new tire lines, and save costs to manufacturers, while not significantly affecting the distribution of grading information to the public.

Ford Motor Company expressed its opinion that a temporary exemption would make good economic sense by permitting full utilization of production facilities while UTQG grades are determined. Full utilization of equipment was a primary goal of the Atlas petition, which expressed concern that a substantial investment in tire molds would be unproductive while UTQG testing was conducted using a small initial sample of tires.

Goodyear also expressed general support for the proposal, since it would permit UTQG grades to be based on testing of production tires. Goodyear noted that while UTQG testing of prototype tires is possible, testing of production tires is desirable because of the greater variety of sizes available for testing.

While supporting the proposal for a molding exemption period, tire industry commenters uniformly agreed that the four-month period proposed by NHTSA would be inadequate. Goodyear, Atlas, and the RMA agreed that a six-month period would be preferable. These commenters viewed four months as the period in which grades could be determined and molds stamped under optimal conditions. However, these sources pointed out that unexpected delays in tire selection, testing, data analysis, retesting, or stamping could easily extend beyond the four-month period. Atlas' comments suggested that the potential for delay is even greater where multiple sources of supply are involved. In order to

allow for potential uncontrollable delays of this nature, NHTSA has determined that the period for introduction of molded grades on new tire lines will be extended to six months from the date production commences.

NHTSA's notice of proposed rulemaking on this subject contained a proposed requirement that motor vehicle manufacturers affix to the window of each of their vehicles equipped with tires exempted from the molding requirement a sticker containing tire-specific UTQG information. This proposal was intended to assure that prospective vehicle purchasers have access to UTQG information. Tire-specific grades for original equipment tires are not available on tread labels or in vehicle manufacturers' point of sale information. However, the window sticker proposal was uniformly opposed by motor vehicle and tire industry commenters.

General Motors Corporation, Chrysler Corporation, Volkswagen of America, Inc., and Goodyear all argued that significant assembly line problems would result from adoption of a window sticker requirement. Comments received from these manufacturers indicated that several lines of tires are frequently used as original equipment on a single vehicle model and, under the proposal, more than one tire line without molded grades could be available for use in an assembly plant at one time.

Given this diversity of tire use, commenters pointed out, assembly line personnel would have to inspect each vehicle and determine whether ungraded tires were being used. These employees would then have to determine the correct UTQG window sticker to be affixed to the vehicle. Under such a system, labeling errors would be likely in the absence of costly and time-consuming reinspection. Alternatively, expensive special parts identification and storage programs could be undertaken to track ungraded tires through the plant and affix the appropriate labels when the tires are used.

Several commenters argued that such a labeling program would be unreasonably burdensome and expensive in comparison to

the benefits which would be expected from such a program. Ford Motor Company estimated that UTQG window stickers would result in an annual cost to that company of \$50,000. General Motors (GM) estimated that window stickers could be affixed at a cost of \$.50 per car if used on all cars it produced. According to GM, this cost would be much higher in the limited application contemplated by the proposal, due to increased scheduling and inspection costs.

At the same time, General Motors, Chrysler, and Goodyear argued that the major importance of UTQG is in the replacement market and that tire grades seldom influence new car purchases. GM pointed out that it establishes its own performance criteria for original equipment tires beyond the UTQG performance categories, and that in this way vehicle purchasers are assured of getting suitable tires regardless of molded UTQG grades.

While Ford suggested several alternatives to the window sticker proposal, the other commenters addressing the issue recommended that no accommodation at all is necessary for ungraded original equipment tires. In this regard, Goodyear noted that the estimate used in the notice of proposed rulemaking that no more than five percent of original equipment tires would be ungraded was probably high and the actual figure will likely be considerably below that estimate. NHTSA is also aware that in the event a vehicle purchaser is interested in UTQG information on original equipment tires temporarily exempted from the molding requirement, UTQG information would be readily available from local tire dealers and other sources. In view of the above considerations, NHTSA has determined that the proposed UTQG window sticker is unnecessary and unduly burdensome and the proposal for such a sticker is withdrawn.

NHTSA's notice of proposed rulemaking also proposed a sunset provision for the molding requirement change. This provision would have automatically terminated the molding exemption at the end of three years, unless the agency determined that an extension were necessary. Goodyear and the

RMA pointed out in their comments that a sunset provision is unnecessary, since the agency already has the authority to review and amend the regulation at any time, if it appears that the exemption is not working as planned. In fact, Atlas recommended that the agency review the effect of the amendment no later than 18 months after its effective date.

Goodyear noted that, if the sunset provision is adopted, unforeseen delays in completion of NHTSA's review could lead to disruptions in the event the three-year sunset period expires before the review process can be completed and the exemption extended. While NHTSA plans to monitor the effect of the molding exemption and will propose any necessary modifications, the agency has concluded that the proposed sunset provision is unnecessary and potentially disruptive. Therefore, the sunset provision is withdrawn.

Finally, only one commenter expressed an opinion on the proposal to extend the deadline for conversion to the new tread label format. As discussed in Armstrong's petition on this subject, the original October 1, 1980, effective date appeared appropriate at the time it was established. However, a sudden market shift toward radial tires resulted in unused supplies of old-format labels for bias-belted tires. In order to permit existing stocks of labels to be used, NHTSA proposed extension of the deadline for conversion to the new label format until April 1, 1982.

Goodyear complained that it had scrapped unused supplies of old-format labels when the format change took effect and argued that extension of the deadline at this time would not be fair and equitable. Goodyear went on, however, to state its preference that the deadline for conversion be eliminated altogether in the interest of efficient use of available materials.

NHTSA regrets that Goodyear found it necessary to dispose of a quantity of old-format labels which could not be used up prior to the October 1 deadline. However, the agency believes that such economic waste would only be compounded by requiring disposal of labels which may have been

retained by other manufacturers. At the same time, complete elimination of the conversion deadline could indefinitely delay conversion to the new label format, which the agency considers superior. For these reasons, the deadline for conversion to the new tread label format is extended until April 1, 1982. Of course, manufacturers and brand name owners wishing to use new-format labels prior to that date are free to do so.

Several commenters stressed the need to act quickly on the proposed amendments in order to avoid production disruptions and economic penalties which may be encountered in the planned introduction of new tire lines. Since the changes outlined above relieve restrictions and have these beneficial effects, they are made effective immediately upon publication.

NHTSA has evaluated these amendments and found that their effect would be to provide minor cost savings for tire manufacturers and brand name owners.

Accordingly, the agency has determined that the amendments are not a major rule within the meaning of Executive Order 12291 and are not significant for purposes of Department of Transportation policies and procedures for internal review of proposals. The agency has further determined that the cost savings are not large enough to warrant preparation of a regulatory evaluation under the procedures. The agency has also determined that the amendments, which relieve restrictions and provide minor cost savings, will not significantly affect a substantial number of small entities. Finally, the agency has concluded that the environmental consequences of the amendments will be minimal.

Issued on July 30, 1981.

Raymond A. Peck, Jr.
Administrator
46 F.R. 41514
August 17, 1981

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations (Docket No. 79-02; Notice 5)

ACTION: Final rule.

SUMMARY: This notice amends the Consumer Information Regulations to permit amendment of previously submitted motor vehicle performance information at any time up to 30 days prior to new model introduction. This amendment is intended to reduce regulatory burdens on industry by allowing greater flexibility in the implementation of pre-introduction product changes.

EFFECTIVE DATE: June 1, 1982.

SUPPLEMENTARY INFORMATION: The Consumer Information Regulations (49 CFR Part 575) require that manufacturers of motor vehicles and tires provide prospective purchasers and first purchasers with information on the performance of their products in the areas of vehicle stopping ability (49 CFR §575.101), vehicle tire reserve load (49 CFR §575.102), truck camper loading (49 CFR §575.103), and uniform tire quality grading (49 CFR §575.104). In addition to the requirements that information be furnished directly to consumers, manufacturers are required to submit information to the National Highway Traffic Safety Administration (NHTSA) prior to the introduction of new vehicle models and tire lines or modification of existing lines. This advance submission requirement is intended to permit the agency to compile the information supplied by various manufacturers in a comparative format for distribution to consumers.

As originally issued, and presently in force, the regulation requires that all information be submitted to NHTSA at least 30 days prior to the date on which the information is made available to prospective purchasers (49 CFR §575.6(d)). The regulation requires that information must be made available to prospective purchasers not

later than the day on which the manufacturer first authorizes the subject product to be put on public display and sold to consumers (49 CFR §575.6(c)).

To enable NHTSA to compile the information in a comparative booklet for distribution early enough in the model year to be useful to most consumers, the agency amended the regulations to require that motor vehicle manufacturers submit information at least 90 days in advance of new model introduction (45 F.R. 47152; July 14, 1980). The 30-day period was retained for post-introduction vehicle changes and for tire quality grading information. The amendment was originally scheduled to take effect June 1, 1981, but the effective date was postponed until June 1, 1982 (46 F.R. 29269; June 1, 1981), to allow consideration of a petition from Ford Motor Company requesting greater flexibility in the requirement.

Ford contended that the 90-day advance submission requirement could create hardships for manufacturers when last minute pre-introduction product changes, resulting from component supply difficulties or other factors, affect the performance characteristics covered by Part 575. In such a situation, a manufacturer could be forced to delay introduction of a vehicle model until a new 90-day advance notice period had been completed. To avoid this result, Ford recommended that manufacturers be permitted to amend initial pre-introduction submissions at any time prior to 30 days before model introduction. NHTSA responded with a notice of proposed rulemaking to permit such revisions in the event of unforeseeable pre-introduction modifications in vehicle design or equipment (46 F.R. 4054; August 10, 1981; Docket 79-02; Notice 4). This proposal was among the deregulatory measures discussed in the Administration's

notice of intent on measures to aid the auto industry.

NHTSA received comments from seven motor vehicle manufacturers and importers in response to the notice of proposed rulemaking. All commenters agreed that the proposed amendment would be an improvement over the established 90-day requirement, in that greater flexibility would be provided in the introduction of necessary product changes. As noted by Ford, the amendment would facilitate implementation of product development and marketing schedules, while still providing information adequate for NHTSA's purposes. NHTSA agrees and has determined that the proposed amendment should be adopted with one modification.

General Motors and Volkswagen of America, Inc. commented that limiting changes in performance information to those resulting from "unforeseeable" product changes is inappropriate. Volkswagen argued that only the manufacturer can adequately judge whether product changes are unforeseeable, and that agency attempts to enforce such a requirement could lead to undesirable consequences. Moreover, a manufacturer acting in good faith could be faced with a dilemma if the manufacturer is unable to conclude that a needed product change was unforeseeable, although in fact it had not been anticipated in a particular instance. (Docket 79-02, Notice 4, No. 004). General Motors argued that cost factors alone are a sufficient incentive to manufacturers to avoid last minute product changes and therefore no foreseeability standard is necessary to insure that changes are made in good faith. General Motors suggested that if any qualifier is thought necessary, "unforeseen" or "unanticipated" would be preferable. (Docket 79-02, Notice 4, No. 007).

NHTSA continues to believe that some provision is necessary to assure that only good faith product changes form the basis for modifications of pre-introduction submissions. However, NHTSA does not wish to inhibit product changes which the agency may believe could have been foreseen, but honestly were not. To avoid this result, the agency has concluded that "unforeseen" rather than "unforeseeable" is a more appropriate description of the types of product changes which would justify amendments of pre-introduction consumer information submissions.

Volkswagen and General Motors also commented that the 90-day advance submission requirement is unnecessary and that the original 30-day period should be retained. Volkswagen contended that the agency could not use the manufacturers' submissions until 30 days prior to model introduction in any case because the data would be subject to change. Volkswagen also suggested that manufacturers could circumvent the 90-day requirement by making minimal performance claims in their initial submissions and amending the information at a later date. General Motors commented that the further in advance information is submitted, the less accurate it will be, and that the successful publication of the Environmental Protection Agency's fuel economy guide establishes the feasibility of publishing comparative information with a brief advance submission period.

NHTSA's past experience indicates that 30 days is inadequate for this agency to compile, publish and distribute a useful comparative booklet. Moreover, any design or equipment related inaccuracies inherent in a 90-day advance submission can be corrected under the amendment adopted in this notice. While it is true that the agency could not publish and distribute the information until the period for amendment of initial submissions expired, the agency could compile the information and begin the publishing process, incorporating any necessary changes prior to printing. Comments submitted by Yamaha Motor Corporation, U.S.A. (Docket 79-02, Notice 4, No. 001), suggest that the number of required changes will be small. Finally, the type of abuse noted by Volkswagen would be precluded under the amended regulation because the type of revision described would not have been necessitated by unforeseen product changes.

Commenters also suggested rescinding the advance submission requirement completely or rescinding the stopping distance and tire reserve load provisions. Still other commenters recommended that the agency reassess the costs and benefits of the Consumer Information Regulations as a whole. The rationale for these recommendations centered on the alleged lack of consumer interest in the information and the limited amount of information provided under the program.

As noted by commenters, NHTSA has proposed rescission of the requirement that auto manufacturers provide tire reserve load information to the public and the agency (46 F.R. 47100; September 24, 1981). However, in conjunction with the Administration's efforts to ease regulatory burdens on the auto industry, the agency wishes to maintain a functioning consumer information program as a possible substitute for mandatory safety regulations. As part of the agency's ongoing program to identify and eliminate unnecessary regulatory burdens, NHTSA plans to review the benefits of and need for the Consumer Information Regulations as a component of the agency's total regulatory program. If this review indicates that the consumer information program is not useful and cost-beneficial, the future of the regulation will be addressed in a later rulemaking proceeding.

NHTSA has evaluated this relieving of a restriction and found that its effect will be to provide minor cost savings for motor vehicle manufacturers. Accordingly, the agency has determined that the action is not a major rule within the meaning of Executive Order 12291 and is not significant for purposes of Department of Transportation policies and procedures for internal review of regulatory actions. The agency

has further determined that the cost savings are so minimal as to not warrant preparation of a regulatory evaluation under the procedures. The agency certifies pursuant to the Regulatory Flexibility Act that the action will not have a significant economic impact on a substantial number of small entities because the cost savings will be modest and few, if any, motor vehicle manufacturers can be considered small entities within the meaning of the statute. Finally, the agency has concluded that the environmental consequences of the proposed change will be of such limited scope that they clearly will not have a significant effect on the quality of the human environment.

Issued on February 11, 1982.

Raymond A. Peck, Jr.
Administrator

47 F.R. 7257
February 18, 1982

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations (Docket No. 81-09; Notice 2)

ACTION: Final rule.

SUMMARY: This notice amends the Consumer Information Regulations by revocation of the requirement that motor vehicle manufacturers provide information on passenger car tire reserve load. The National Highway Traffic Safety Administration has concluded that this information is without value to consumers, and that deletion of the requirement will avoid unnecessary regulatory burdens on industry.

EFFECTIVE DATE: This amendment is effective immediately.

SUPPLEMENTARY INFORMATION: The Consumer Information Regulations (49 CFR Part 575) require that manufacturers of motor vehicles and tires provide consumers with information on the performance of their products under various performance criteria. In the case of motor vehicle manufacturers, information is required in the areas of passenger car and motorcycle stopping distance (49 CFR §575.101), passenger car tire reserve load (49 CFR §575.102), and truck camper loading (CFR §575.103). National Highway Traffic Safety Administration (NHTSA) regulations require that motor vehicle manufacturers supply the required performance information in writing to first purchasers of their motor vehicles at the time of delivery (49 CFR §575.6(a)) and that the information be made available for examination by prospective purchasers at each location where the vehicles to which it applies are sold (49 CFR §575.6(c)). The information must also be submitted in advance to NHTSA (49 CFR §575.6(d)).

On September 24, 1981, NHTSA published in the *Federal Register* a proposal to delete from the Consumer Information Regulations the

requirement for provision of information on passenger car tire reserve load (46 F.R. 47100; Docket No. 81-09, Notice 1). Tire reserve load is the difference between a tire's stated load rating and the load imposed on the tire at maximum loaded vehicle weight. This difference is expressed as a percentage of tire load rating under the regulation.

NHTSA's proposal noted that a NHTSA analysis, "The Relationship Between Tire Reserve Load Percentage and Tire Failure" (Docket No. 81-09, Notice 1, No. 002), had concluded that no relationship exists between tire reserve load percentage and tire failure rate. This analysis was based on the results of a study prepared for NHTSA by Chi Associates, "Statistical Analysis of Tire Failure vs. Tire Reserve Load Percentage" (Docket No. 81-09, Notice 1, No. 001), using tire reserve load data obtained from eight automobile manufacturers under special order from this agency. The proposal also noted the lack of major differences among manufacturers' reported tire reserve load percentages, and the safeguards against overloading contained in Federal Motor Vehicle Safety Standard No. 110 (FMVSS No. 110), Tire Selection and Rims.

In response to its proposal to delete the requirement for tire reserve load information, NHTSA received comments from seven motor vehicle manufacturers and importers. The commenters were unanimous in their support of the agency's proposal. Comments received generally focused on the lack of benefit to consumers resulting from provision of tire reserve load information.

Several commenters noted the lack of any proven safety benefit from the tire reserve load regulation. Two commenters, Ford Motor Company and Volkswagen of America, Inc., cited the above mentioned NHTSA analysis in support

of the proposition that tire reserve load is an invalid predictor of tire failure (Docket No. 81-09, Notice 1, Nos. 004 and 006). General Motors Corporation (Docket No. 81-09, Notice 1, No. 007) and American Motors Corporation (Docket No. 81-09, Notice 1, No. 008, referencing its prior comment, Docket No. 79-02, Notice 1, No. 012) argued that FMVSS No. 110 is sufficient to protect against the installation of tires with inadequate load carrying capacity.

American Motors also pointed out that much of the information required under the tire reserve load regulation is redundant of information which must be included on glove compartment placards pursuant to FMVSS No. 110. In this regard, information on recommended tire size designation and recommended inflation pressure for maximum loaded vehicle weight, required under paragraphs (c)(2) and (3) of the tire reserve load regulation (49 CFR §575.102(c)(2) and (3)) is essentially the same as that required under paragraphs s4.3(c) and (d) of FMVSS No. 110 (49 CFR §575.110, s4.3(c) and (d)).

Several commenters argued that not only is tire reserve load information lacking in safety value, but it may actually pose a danger to highway safety. Renault USA, Inc., Volkswagen, General Motors and American Motors all expressed concern that provision of tire reserve load information would mislead consumers into loading their vehicles beyond gross vehicle weight ratings (Docket No. 81-09, Notice 1, Nos. 003, 006, 007, 008). Renault and American Motors also noted that the tire reserve load regulation fails to take into account the effect of inflation pressure, thus further limiting the usefulness of the regulation and creating additional potential hazards resulting from improper tire inflation.

Chrysler Corporation and General Motors emphasized the minimal consumer interest in tire reserve load information (Docket No. 81-09, Notice 1, Nos. 005 and 007). As evidence of this minimal interest, both manufacturers noted the lack of consumer requests for point of sale information currently available.

Some cost savings are likely to result to automobile manufacturers as a result of deletion of this requirement. General Motors pointed out that, even if tire reserve load is dropped from the consumer information regulations, manufacturers will still be required to print and distribute

booklets containing information on vehicle stopping distance and thus cost savings will be limited (Docket No. 81-09, Notice 1, No. 007). However, Ford commented that elimination of the tire reserve load provision would result in some savings in manpower and computer time (Docket No. 81-09, Notice 1, No. 004). Similarly, Volkswagen noted that manufacturers' booklet publication costs would be reduced and reporting requirements simplified if the proposed amendment were adopted (Docket No. 81-09, Notice 1, No. 006).

In view of the lack of benefits of the tire reserve load information requirements, the potential for reduction of unnecessary regulatory burdens by deletion of these requirements, and the other considerations discussed above, NHTSA has concluded that the tire reserve load requirements of the Consumer Information Regulations should be revoked. In order to avoid continued imposition of unnecessary regulatory burdens, this amendment relieving a restriction is made effective immediately.

Several commenters also suggested rescinding the vehicle stopping distance information requirement of the regulation, thereby eliminating all requirements for vehicle specific consumer information applicable to passenger cars. While beyond the scope of this rulemaking proceeding, NHTSA is reviewing the benefits of and need for other aspects of the Consumer Information Regulations in connection with a petition for rulemaking submitted by General Motors. If this review indicates that vehicle stopping distance information is not useful, the potential deletion of this requirement will be made the subject of a future rulemaking proceeding.

NHTSA has evaluated this relieving of a restriction and found that its effect would be to provide minor cost savings for motor vehicle manufacturers. Accordingly, the agency has determined that this action is not a major rule within the meaning of Executive Order 12291 and is not significant for purposes of Department of Transportation policies and procedures for internal review of regulatory actions. The agency has further determined that the cost savings are minimal and do not warrant preparation of a regulatory evaluation under the procedures.

The agency certifies, pursuant to the Regulatory Flexibility Act, that this action will not "have a

significant economic impact on a substantial number of small entities," and that a Regulatory Flexibility Analysis was therefore not required. Few, if any, motor vehicle manufacturers can be considered small entities within the meaning of the statute. Small organizations and small government jurisdictions will not be significantly affected by this action. These entities could be affected by the action as motor vehicle purchasers. However, the agency has determined that tire reserve load information is not of value to purchasers. Moreover, possible cost savings associated with the action will be minor in the

case of individual purchasers.

Issued on May 28, 1982.

Raymond A. Peck, Jr.
Administrator

47 F.R. 24593
June 7, 1982



PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations; Uniform Tire Quality Grading (Docket No. 25; Notice 46)

ACTION: Interim final rule and request for comments.

SUMMARY: This notice makes several technical amendments to the test procedures in the regulation on Uniform Tire Quality Grading (UTQG). The UTQG regulation specifies that the tire rim size and tire loading used in testing individual tires are to be determined by using Table 1, Appendix A of Federal Motor Vehicle Safety Standard No. 109, New pneumatic tires. Since the portion of Table 1, Appendix A relied upon by the UTQG regulation was deleted in a previous agency rulemaking, effective June 15, 1982, reliance upon that Appendix will no longer be appropriate after that date. This notice replaces the references to Appendix A with equivalent methods for determining rim size and tire loading.

DATES: This amendment is effective June 15, 1982.

SUPPLEMENTARY INFORMATION: The Uniform Tire Quality Grading (UTQG) regulation (49 CFR 575.104) requires that manufacturers and brand name owners of passenger car tires provide consumers with information on the treadwear, traction and temperature resistance of their tires. This information is to be generated in accordance with procedures specified in the regulation.

Two parameters specified in the test procedures are the proper test rim width for each tire, and the load under which the tire is to be tested. The UTQG regulation refers to Appendix A of Federal Motor Vehicle Safety Standard No. 109 (FMVSS 109) for the determination of rim size to be used for testing purposes. Table 1 of Appendix A provides a complete listing of tire sizes available

in this country and for each size indicates the proper test rim size and maximum loads at various tire pressures.

The UTQG regulation also refers to Appendix A of FMVSS 109 for the determination of tire load. The tire load for temperature resistance testing is the load specified in Appendix A of FMVSS 109 for the tire pressure listed in Table 1 of the UTQG regulation. Thus, load is currently determined by obtaining the tire pressure from Table 1 of the UTQG regulation and finding the load for that pressure level in Appendix A. The tire load for treadwear and traction testing is determined in the same way, except that the load level found in Appendix A is multiplied by 85 percent.

Beginning on June 15, 1982, reliance upon Appendix A of FMVSS 109 to determine rim size and tire load for UTQG testing will no longer be possible. On that date, the agency's amendment (December 17, 1981; 46 F.R. 61473) deleting Table 1 of Appendix A will become effective. As FMVSS 109 is currently written, the tire manufacturers and brand name owners must submit the rim size information to NHTSA for incorporation in Table 1. Under the amendment, they will be able to satisfy FMVSS 109 by either securing the incorporation of the information in a publication of a standardization organization like the Tire and Rim Association or one of its foreign counterparts or by submitting it to the agency, their dealers, and others who request it, without the need for the information's incorporation in any other document.

As to tire load information, the tire manufacturers and brand name owners must currently calculate loads for pressure levels ranging from 16 to 40 pounds per square inch in most cases and submit the information to NHTSA for incorporation in Table 1. After June 14, they need determine the load only for a single

pressure level, the maximum one. The responsibilities of the manufacturers and brand name owners under amended FMVSS 109 regarding load information may be satisfied in the same fashion as their responsibilities regarding rim size.

The deletion of Table 1 of Appendix A was intended to reduce an unnecessary regulatory burden placed by FMVSS 109 on the tire industry and the agency. The action was not intended to make any change in the UTQG test procedures. However, the deletion of Table 1 of Appendix A necessitates amending the UTQG regulation so that rim size and tire load can be determined without reference to that appendix.

This notice provides the means for making those determinations. The rim size to be used for UTQG testing is the same size specified by the tire manufacturer or brand name owner in a publication of a standardization association or in a submission directly to the agency. This provision does not in any way change the rim size used for UTQG testing. Instead, it simply changes the source of obtaining the rim size information.

As to tire loading, the UTQG testing will henceforth rely upon mathematical calculation involving a tire's maximum load, as molded on its sidewall, instead of relying upon information submitted by the manufacturer or brand name owner to any organization or agency. Under the new procedure, the maximum load is multiplied by a factor, ranging from .851 to .887 depending on the tire's maximum inflation pressure, and the result is rounded. The rounded result is used for temperature resistance testing. For treadwear and traction testing, the rounded result is multiplied by 85 percent. In most instances, this procedure produces the same load as is currently obtained by reference to Table 1 of Appendix A. In those instances in which the load is different, the degree of difference is so slight that the difference will not have any practical effect on the UTQG test results.

The agency finds good cause for issuing these amendments without prior notice and comment. The agency believes that prior notice and comment are unnecessary. The revisions are technical and editorial in nature. In most instances, the revisions produce no changes in the procedures under which tires are tested for UTQG purposes. In the few instances in which there will be a

change, the change is so slight as to be substantively insignificant. Although the agency has concluded that prior notice and comment are unnecessary, it has decided to go beyond the minimum requirements of the Administrative Procedures Act and provide a 60-day comment period on these amendments. For the same reasons set forth above and to permit continued implementation of the UTQG regulation, the agency finds good cause for making the revisions effective immediately.

Since this proceeding is merely intended to allow the continued implementation of the UTQG regulation without any change in the manner of implementation, NHTSA has determined that this proceeding does not involve a major rule within the meaning of Executive Order 12291 or a significant rule within the meaning of the Department of Transportation regulatory procedures. Further, there are virtually no economic impacts of this action so that preparation of a full regulatory evaluation is unnecessary.

The Regulatory Flexibility Act does not require the preparation of flexibility analyses with respect to rulemaking proceedings, such as this one, for which prior notice and comment is not required by the Administrative Procedures Act. If the requirement for preparation of such analyses were applicable, the agency would certify that this action would not have a significant economic impact on a substantial number of small entities. As noted above, this action will make essentially no change in the implementation of the UTQG regulation.

NHTSA has concluded that this action will have essentially no environmental consequences and therefore that there will be no significant effect on the quality of the human environment.

Interested persons are invited to submit comments on the agency's action announced above and on any other topics relevant to this notice. It is requested but not required that 10 copies be submitted.

All comments must be limited not to exceed 15 pages in length. Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary argument in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three

copies of the complete submission, including purportedly confidential information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. Any claim of confidentiality must be supported by a statement demonstrating that the information falls within 5 U.S.C. section 552(b)(4), and that disclosure of the information is likely to result in substantial competitive damage; specifying the period during which the information must be withheld to avoid that damage; and showing that earlier disclosure would result in that damage. In addition, the commenter or, in the case of a corporation, a responsible corporate official authorized to speak for the corporation must certify in writing that each item for which confidential treatment is required is in fact confidential within the meaning of section (b)(4) and that a diligent search has been conducted by the commenter or its employees to assure that none of the specified items have previously been disclosed or otherwise become available to the public.

All comments received before the close of business on the comment closing date indicated above will be considered, and will be available for examination in the docket at the above address

both before and after that date. To the extent possible, comments filed after the closing date will also be considered. However, the rulemaking may proceed at any time after that date, and comments received after the closing date and too late for consideration in regard to the action will be treated as suggestions for future rulemaking. NHTSA will continue to file relevant material as it becomes available in the docket after the closing date; it is recommended that interested persons continue to examine the docket for new material. Those persons desiring to be notified upon receipt of their comments in the rulemaking docket should enclose, in the envelope with their comments, a self-addressed stamped postcard. Upon receiving the comments, the docket supervisor will return the postcard by mail.

Issued on June 11, 1982.

Raymond A. Peck, Jr.
Administrator

47 F.R. 25930
June 15, 1982

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations; Uniform Tire Quality Grading (Docket No. 25; Notice 48)

ACTION: Interim final rule and request for comments.

SUMMARY: This notice makes a technical correction to the test procedures used in Uniform Tire Quality Grading (UTQG). A recently issued amendment to those procedures inadvertently omitted certain factors to be used in determining the load under which tires are to be tested for traction. This notice corrects the prior amendment. This notice also provides that, for a two-year period, tires whose test loads would change significantly as a result of the use of the treadwear, temperature resistance and traction load factors shall continue to be tested at the loads used in UTQG testing prior to June 14, 1982. The agency intends this notice to ensure that test loads will not significantly change from previously specified loads.

EFFECTIVE DATE: The UTQG amendment is effective on August 12, 1982.

SUPPLEMENTARY INFORMATION: Under the UTQG system, tires sold in this country are tested and grades are assigned for treadwear, traction, and temperature resistance. Prior to June 15, 1982, the UTQG Standards provided that the tire rim size and test loads used for UTQG testing were to be obtained from the tire tables of Appendix A to Federal Motor Vehicle Safety Standard No. 109, New pneumatic tires. However, those tables were deleted from FMVSS 109 effective June 15, 1982. In order to provide a substitute means for determining rims and test loads for all three performance characteristics, NHTSA published an interim final rule on June 15, 1982 (47 F.R. 25930). The June 15 notice specified alternative methods for determining test rim sizes and test loads, without having to

refer to the now-deleted tire tables of Standard 109.

Of relevance here is the new procedure for determining test loads. That procedure requires multiplying the maximum tire load appearing on the tire's sidewall by certain specified factors.

The agency's June 15 correction notice inadvertently omitted factors for traction testing. The factors which were listed in that notice were those appropriate for treadwear and temperature resistance testing only. Therefore, the agency is now correcting the table set forth in the June 15 notice to include the factors to be used in UTQG traction testing. The agency has selected these factors, like those specified in the June 15 notice for treadwear and temperature resistance testing, in an attempt to produce approximately the same test load as was previously specified by reference to the tire tables of Standard 109. The agency believes that for most tire types and sizes, this procedure will produce tire load specifications which differ from loads specified by the old procedure by less than 10 pounds. The agency believes that this difference will not be large enough to produce significant differences in test results, but invites comment on this point.

The agency has identified 14 individual tire sizes which would have differences of more than 10 pounds in test loads under the load factors for treadwear, temperature resistance or traction testing under UTQG. These discrepancies apparently result from differences in the manner in which various tire companies determine maximum tire loads and "design" loads. For these 14 tires, the agency is specifying as an interim measure that the loads previously determined by reference to the tire tables may continue to be used for a period of two years. The two-year period will permit the tire manufacturers to make any design changes they feel necessary in these

tires. While the agency believes that those 14 tire sizes represent the only tires now sold in the U.S. with load discrepancies of greater than 10 pounds, there may be others. Commenters are requested to inform the agency of any additional tires for which such a discrepancy exists. These tires will be added to that list when final action is taken on the interim final rule.

The agency finds good cause for issuing this amendment without prior notice and comment. The agency believes that prior notice and comment are unnecessary, since the revisions are technical and editorial in nature. They are intended to allow the continued implementation of the UTQG regulation in the same manner as it was before June 15, 1982. Although the agency has concluded that prior notice and comment are unnecessary, it has decided to go beyond the minimum requirements of the Administrative Procedures Act and provide a comment period on this amendment. For the same reasons set forth above and to permit continued implementation of the UTQG regulation, the agency finds good cause for making the revisions effective immediately.

Since this amendment is not intended to cause any significant change in implementation of the UTQG regulation as it existed on June 14, 1982, NHTSA has determined that this proceeding does not involve a major rule within the meaning of Executive Order 12291 or a significant rule within the meaning of the Department of Transportation regulatory procedures. Further, there are virtually no economic impacts of this action so that preparation of a full regulatory evaluation is unnecessary.

The Regulatory Flexibility Act does not require the preparation of flexibility analyses with respect to rulemaking proceedings, such as this one, since the agency certifies that this action would not have a significant economic impact on a substantial number of small entities. As noted above, this action will make essentially no change in the implementation of the UTQG regulation.

NHTSA has concluded that this action will have essentially no environmental consequences and therefore that there will be no significant effect on the quality of the human environment.

Interested persons are invited to submit comments on the agency's action announced above and on any other topics relevant to this

notice. It is requested but not required that 10 copies be submitted.

All comments must be limited not to exceed 15 pages in length. Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary argument in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality three copies of the complete submission, including purportedly confidential information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. Any claim of confidentiality must be supported by a statement demonstrating that the information falls within 5 U.S.C. section 552(b)(4), and that disclosure of the information is likely to result in substantial competitive damage; specifying the period during which the information must be withheld to avoid that damage; and showing that earlier disclosure would result in that damage. In addition, the commenter or, in the case of a corporation, a responsible corporate official authorized to speak for the corporation must certify in writing that each item for which confidential treatment is required is in fact confidential within the meaning of section (b)(4) and that a diligent search has been conducted by the commenter or its employees to assure that none of the specified items have previously been disclosed or otherwise become available to the public.

All comments received before the close of business on the comment closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. However, the rulemaking may proceed at any time after that date, and comments received after the closing date and too late for consideration in regard to the action will be treated as suggestions for future rulemaking. NHTSA will continue to file relevant material as it becomes available in the docket after the closing date; it is recommended that interested persons continue to examine the docket for new material. Those persons desiring to be notified

upon receipt of their comments in the rulemaking docket should enclose, in the envelope with their comments, a self-addressed stamped postcard. Upon receiving the comments, the docket supervisor will return the postcard by mail.

Issued on August 5, 1982.

Raymond A. Peck, Jr.
Administrator

47 F.R. 34990
August 12, 1982

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations Uniform Tire Quality Grading

[Docket No. 25; Notice 52]

ACTION: Final rule.

SUMMARY: This notice suspends, on an interim basis, the treadwear grading requirements of the Uniform Tire Quality Grading Standards (UTQGS). No change is made in the requirements of grading the traction and temperature resistance performance of new tires except for a minor change in the format for molding those grades on tires.

The UTQGS treadwear grading requirements are intended to aid consumers in assessing the value of new tires in terms of relative treadwear performance. This suspension is being adopted because available information and analysis indicate that the treadwear grades are apparently not only failing to aid many consumers, but also are affirmatively misleading them in their selection of new tires. The unreliability of the treadwear grades arises from two major sources. One is the variability of treadwear test results, which could be caused by either the lack of sufficient measures in the treadwear test procedures to ensure repeatability, or by the inherent complexity of the structure of individual tires themselves, which would preclude reproducibility of test results and, thus, comparative examination between or among tires. The other major source of unreliability is substantial differences among the practices of the tire manufacturers in translating test results into grades.

The agency has identified a wide variety of presently uncontrolled and perhaps uncontrollable sources of variability in the treadwear test procedure, and believes that other sources remain to be discovered. Although some or all of these sources may ultimately be found to

be controllable to the extent that the variability in test results is reduced to acceptable levels, considerable research must be completed before the agency can determine whether or how that can be achieved. Much of the necessary research has already been initiated. When the research is completed, the agency will determine whether the suspension of treadwear grading should be lifted.

The agency is also amending Part 575 to change the format for molding grades on the sidewalls of new tires. The new format, which would include traction and temperature resistance grades but not treadwear grades, must be used on new tires produced in molds manufactured after (180 days after publication in the *Federal Register*). The agency expects and directs that manufacturers will cease printing tire labels and consumer information materials which include treadwear grades described or characterized as having been determined by or under the UTQGS procedures of the United States Government.

As a result of the amendments adopted by this notice, consumers will cease to be misled by unreliable treadwear grade information. In addition, the costs of implementing the treadwear grading program will no longer be imposed on the manufacturers and consumers.

DATES: The suspension of the existing requirements relating to treadwear grades, and the new alternative provision specifying the format for the molding of only traction and temperature resistance information on new tires are effective February 7, 1983. The provision requiring use of the new format is effective for tires produced in molds manufactured on or after August 8, 1983.

SUPPLEMENTARY INFORMATION: Section 203 of the National Traffic and Motor Vehicle Safety Act requires the Secretary of Transportation to prescribe a "uniform quality grading system for motor vehicle tires." As explained in that section, this system is intended to "assist the consumer to make an informed choice in the purchase of motor vehicle tires." The uniform tire quality grading standards (UTQGS) became effective April 1, 1979, for bias tires; October 1, 1979, for bias belted tires; and April 1, 1980, for radial tires. UTQGS requires manufacturers and brand name owners of passenger car tires to test and grade their tires according to their expected performance in use with respect to the properties of treadwear, traction, and temperature resistance, and provide consumers with information regarding those grades.

Treadwear Testing and Grading Process

This notice focuses on the treadwear grades. Unlike grades for the properties of traction and temperature resistance, the treadwear grades have never been intended to promote safety. Their essential value has always been to aid consumers in selecting new tires by informing them of the performance expectations of tread life for each tire offered for sale, so that they can compare on a common basis the relative value of one tire versus another. Although these grades are not intended to be used for predicting the actual mileage that a particular tire will achieve, the relevance and effectiveness of the grades depend directly on the accuracy of the projections of tread life derived from tests and assigned by grades.

The grades are based on a tire's projected mileage (the distance which it is expected to travel before wearing down to its treadwear indicators) as tested on a single, predetermined course laid out on public roads near San Angelo, Texas. Each treadwear test consists of 16 circuits of the approximately 400 mile long course. A tire's tread depth is measured periodically during the test. Based upon these measurements, the tire's projected mileage is calculated. A tire's treadwear grade is expressed as the percentage which its projected mileage represents of a nominal 30,000 miles. For example, a tire with a projected mileage of 24,000 would be graded "80,"

(i.e., 24,000 is 80 percent of 30,000 miles), while one with a projected mileage of 39,000 would be graded "130," (i.e., 39,000 is 130 percent of 30,000, rounded).

Because the measured treadwear upon which grades are based occurs under outdoor road conditions, any comparison between candidate tire performances must involve a standardization of results by correction for the particular environmental conditions of each test. To do this, the treadwear performance of a candidate tire is measured in all cases in conjunction with that of a so-called "course monitoring tire" (CMT) of the same construction type. The treadwear of the standardized CMT's is measured to reflect and monitor changes in course severity due to factors such as road surface wear and environmental conditions. The actual measured treadwear of the candidate tire is adjusted on the basis of the actual measured treadwear on the CMT's run in the same convoy, and the resulting adjusted candidate tire treadwear is used as the basis for assigning the treadwear grade.

To promote their uniformity, the CMT's are selected from a single production lot manufactured at a single plant, under more stringent quality control measures (set by contract with NHTSA) than would otherwise apply to production tires.

Each test convoy consists of one car equipped with four CMT's and three or fewer other cars equipped with candidate tires of the same construction type. Candidate tires on the same axle are identical, but front tires on a test vehicle may differ from rear tires as long as all four are of the same size designation. After a two-circuit break-in period, the initial tread depth of each tire is determined by averaging the depth measured in each groove at six equally spaced locations around the circumference of the tire. At the end of every two circuits (800 miles), each tire's tread depth is measured again, the tires are rotated on the car, and wheel alignments may be readjusted as needed to fall within the ranges of the vehicle manufacturer's specifications. At the end of the 16-circuit test, each tire's overall wear rate is calculated from the nine measured tread depths and their corresponding mileages after break-in by using a regression line technique.

Part 575 requires that the treadwear grading information be disseminated in three ways. First,

the actual grade must be molded onto the sidewall of each tire. Second, the grade and an explanation of the treadwear grading process must appear on a paper label affixed to the tire tread. Third, the grade and the same explanation must be included in materials made available to prospective purchasers and first purchasers of new motor vehicles and tires.

Agency's Recent Actions

The basis and validity of the UTQGS has been a longstanding source of controversy and uncertainty within the agency and among interested parties. In view of the manifest potential conflict between the clear desirability of a valid, effective program to enable more informed consumer choice in the marketplace and the potential for serious adverse effect on the marketplace of an inadequate or potentially misleading programmatic result, the agency responded to its own enforcement uncertainties, described more fully below, by reviewing the current state of knowledge concerning the UTQGS, and addressing the specific sources of variability already identified.

Variability due to treadwear test procedures. In response to longstanding concerns about the variability and unreliability of the treadwear test results and grades and about the underlying causes of these problems, the agency conducted a review in May 1982 of treadwear test procedures being used by the tire testing companies in San Angelo. That review confirmed the existence of numerous uncontrolled sources of potential variability in treadwater test results. The potential cumulative effect of those sources would produce test result variability approaching the unacceptable magnitude long asserted by many tire manufacturers. The high level of test result variability could result in tires with better actual treadwear performance being graded as inferior to tires with worse actual performance, or vice versa.

The review did not, however, address in detail the relative significance of the various sources of variability. That question and the ultimate question of whether the identified sources of variability can be sufficiently controlled so as to bring the overall amount of variability down to an acceptable level can be answered only after

extensive research and testing.

Among the sources of variability discussed in the review were the weight scales intended to assure the proper loading of the cars used in the testing convoys, errors or inconsistencies introduced by variations in the amount of force applied to the probes used to measure tread depth and tendencies of measuring personnel to "search" for tread depth measurements consistent with expected rates of treadwear, discrepancies in the level of the training of technicians, fairly wide tolerances on critical alignment settings, unquantifiable variations in vehicle weights and weight distribution and suspension modification, and variations in driver techniques and in weather conditions on the course.

Each of the specific identified sources of such variability is discussed in detail below.

Variability due to grade assignment practices. Following the initial implementation of UTQGS, the agency sent a special order to the tire manufacturers to obtain information regarding their practices for translating treadwear test results into grades. The response indicated wide variation within the industry regarding those practices. Some manufacturers evaluated data by applying statistical procedures to estimate the percentage of their production which would equal or exceed a particular grade. Other manufacturers did not use such a procedure, relying instead on business and engineering judgment in assigning grades. The agency tentatively concluded that these differing practices created the substantial likelihood that different manufacturers, although faced with similar test results, would assign different grades to their tires. Accordingly, NHTSA issued a notice of proposed rulemaking requesting comment on a standardized process for translating test results into grades. (46 F. R. 10429, February 2, 1981). Commenters generally criticized the proposed process, particularly for its failure to account properly for undergrading. The agency is continuing its efforts aimed at developing a uniform procedure for translating test results into treadwear grades. However, until this problem is resolved, the unreliability of treadwear grades is compounded by the fact that the relationship between test results and assigned grades is not a constant one from

manufacturer to manufacturer.

Variability inherent in the nature of tire structure. A potential for an unquantified degree of variability is inherent in the differences between seemingly identical (i.e., in terms of brand, line, size, and manufacturing lot) tires. The potential arises from the complex combination of a variety of factors, including the materials, designs, and manufacturing procedures, that go into the production of tires. The materials include the rubber composition and various reinforcing materials such as rayon, steel, polyester, etc., which themselves are developed from complicated manufacturing processes. The design of a tire includes such factors as the cross section shape, the orientation and structure of the reinforcing materials, the tread design, and the construction (bias, bias-belted, or radial). The manufacturing procedures include the processes employed during manufacturing and the conditions such as temperatures and times of vulcanization. Separately and together, these variables can have a significant effect on tread life.

In the production of tires, the manufacturers use a variety of techniques in an attempt to control all of these variables and to achieve a consistent level of quality and performance for their different products. The success of these efforts varies from tire line to tire line, lot to lot, and from manufacturer to manufacturer. The complexity of the entire process will inevitably lead to some variation in performance, including treadwear performance between nominally identical tires.

NOTICE OF PROPOSED RULEMAKING

Based on the assertions and submissions of the tire manufacturers and the agency's review of the test procedures and of its own enforcement data, the agency tentatively concluded in July 1982 that treadwear grading under UTQGS should be suspended pending completion of research regarding the extent to which the sources of variability could be isolated and reduced. Accordingly, it issued a notice of proposed rulemaking to obtain both written comments and oral testimony on suspending treadwear grading (47 F.R. 30084, July 12, 1982) and to schedule a public meeting August 12, 1982. The agency

stated that it was issuing the proposal principally to avoid the dissemination of information potentially misleading to consumers and secondarily to minimize the imposition of unwarranted compliance costs on industry and consumers. The agency noted its concern that the treadwear grading was not only failing to achieve its statutory goal of informing consumers, but also affirmatively misleading them.

In defending UTQGS against earlier judicial challenges, NHTSA had taken the position that the treadwear test procedure was adequately specified to ensure that test result variability was limited to acceptable levels. See *B.F. Goodrich v. Department of Transportation*, 541 F. 2d 1178 (6th Cir. 1976) (hereinafter referred to as "*Goodrich I*"); and *B.F. Goodrich v. Department of Transportation*, 592 F. 2d 322 (6th Cir. 1979). For example, the agency had stated in the *Goodrich I* litigation that variables in the testing procedure are controlled and taken into account, principally through the selection of a single test course and the use of CMT's. With respect to certain potential sources of variability, the agency stated that their effects on treadwear testing and grading would be minimal. The agency indicated in its suspension proposal that it could no longer make the same representations. These statements have been further undermined by information now available to the agency.

The notice summarized the material relied upon by the agency in making its tentative conclusions, including the information and arguments submitted by the tire manufacturers. Firestone Tire and Rubber Company, for example, found that treadwear test results could vary up to 30 percent even for CMT tires, which are specially manufactured for maximum homogeneity. That company also pointed out several possible causes of the variability, including variability in test vehicles and driver techniques as well as deficiencies in the details of the test procedures themselves. General Tire and Rubber Company reported additional sources of variability, including vehicle wheel alignment, weight distribution, and test course environmental factors. B.F. Goodrich Company stated that differences in tire tread composition between candidate tires being tested and the CMT's could be a major source of variability. As a group, the tire manufacturers generally

contended that the variability of the test results is too great to permit meaningful treadwear grading or compliance testing. The agency's own preliminary research confirms this conclusion and supports the need for the suspension.

The proposal also discussed the agency's enforcement data and described at length the review conducted by NHTSA of the treadwear testing companies. The agency emphasized that the list of sources of variability mentioned in the review was not exhaustive, but intended merely to be illustrative of the types of possible such sources and of the difficulties which exist in seeking to establish a treadwear test procedure that could produce valid, repeatable results. The agency found that the combination of the examined sources represented a potential for test result variability of serious dimensions. Each potential source of variability was described and the potential effect of them on test results was estimated. For example, effects of ± 34 or 35 points were estimated for two sources of variability and ± 14 points for another.

Summary of Comments on Proposal

Written comments and oral testimony were received from a variety of sources, although the most detailed ones were from tire manufacturers. While there was a division of opinion regarding the merits of the proposal, most commenters favored the suspension. Proponents of the suspension included tire manufacturers, several tire manufacturers' associations, tire dealers, a motor vehicle manufacturer, some consumers, and a public interest group. Proponents agreed with the agency's statement that the treadwear test results and grades were so variable and unreliable as to confuse and mislead consumers. They also listed again the factors that they thought were causing the variability. Some proponents suggested that the problems are so serious that simple suspension was inadequate. They urged that the agency go further and rescind the treadwear provisions altogether.

Opponents of the proposed suspension included one tire manufacturer, a tire dealer, a public interest group, a county consumer protection agency, and a number of consumers. The tire manufacturer argued that the treadwear grade information was sufficiently correlated with

actual differences in tire performance to be helpful to those consumers who use that information. It acknowledged that there was variability in the treadwear test results and differences in the grade assignment practices, but contended that these problems could be satisfactorily controlled through further identified changes in UTQGS. The manufacturer argued that even if there were difficulties in enforcing the current treadwear requirements, the overall value of the comparative treadwear information justified retention of the requirements while the enforcement problems were addressed. The public interest group argued that NHTSA was ignoring its statutory mandate, as interpreted by that group, in contemplating a suspension of treadwear grading. That opponent argued further that the agency had artificially narrowed the options under consideration in this rulemaking proceeding.

Two tire testing companies submitted detailed comments regarding their testing practices. They generally argued that the problems discussed in the agency's review of testing companies did not apply to them. One asserted further that the suspension would have a severe economic impact in the San Angelo, Texas area, where treadwear tests are conducted. The San Angelo Chamber of Commerce concurred in that assessment.

Summary of Suspension Decision

NHTSA has decided to suspend the treadwear provisions of UTQGS because available information and analysis indicate that the treadwear grades are apparently not only failing to aid many consumers, but are also affirmatively misleading them in their selection of new tires. The capacity of these grades to mislead consumers arises principally from variability in treadwear test results unrelated to actual differences in measured or projected performance, and secondarily from differences among manufacturers in their translation of test results into grades. In its proposal, the agency identified some of the wide variety of uncontrolled sources of variability in the insufficiently specific treadwear test procedures. The agency has been able to quantify the effect of only some of those sources. Other sources are

believed to exist and continue to be discovered. Indeed, the tire manufacturer opposing the suspension reported only last November its discovery of a "major unreported source of variability." (Letter from R. H. Snyder, Uniroyal Tire Company, to Raymond Peck, NHTSA Administrator, November 12, 1982, Docket 25, Notice 47, No. 090).

In their comments to the agency, the opponents of the suspension did not controvert the premise of the agency that there is substantial variability in test results and that there are specific identified sources of much of that variability. The tire manufacturer opposing suspension conceded that test result variability and differences in grading practices can be so large as to result in changes between the order in which tires are ranked based on test results and the order in which they are ranked based on grades. Indeed, comparisons of the agency's own compliance test data and grades assigned by the tire manufacturers indicate that these ranking changes occur with some frequency and can be substantial. Moreover, the opponents did not deny that there were significant problems with enforcing the treadwear requirements of Part 575 as they are now written.

Where the rank order of measured performances or assigned grades changes, it is clear that only one of such differing results can in fact be objectively correct and valid. Any such change in ranking thus represents a clear and present danger that grades can be affirmatively misleading. Resulting purchasing decisions based on such incorrect grades are not merely wrong, but represent instances in which the government-created program of consumer assistance through the dissemination of objective comparative information has in fact affirmatively misled the consumers which are intended to be assisted.

Although the sources of variability may ultimately be controllable to the extent that the variability and unreliability derived from treadwear test results and grades are reduced to lower, more acceptable levels, considerable research must be completed before that is even a possibility. Even if such research were now complete, it is not clear at this point how much of the current test-derived variability and unreliability could be eliminated. Much of the necessary research has already been initiated.

When the research is completed, the agency will address the question of whether the problems can be reduced to the point that it can begin considering whether to reinstate the UTQGS treadwear system.

Rational for Suspension Decision

Magnitude of the Overall Variability and Reliability Problem

Available data demonstrate that the treadwear test results can vary substantially and that the treadwear grades assigned by the manufacturers are unreliable for the purposes of comparing tires. Data submitted by the tire manufacturers indicate that subjecting tires of a particular type and line to the same tests on separate occasions produces differences in test results of up to 80 points. The agency's own compliance test data include examples of significant test result variability.¹

Moreover, in addition to test result variability, the process of assigning grades can and demonstrably has introduced other unacceptable levels of uncertainty as far as the consumer is concerned. Treadwear grades are often not a reliable indicator of the relative tread life of tires because the order in which tires are ranked on the basis of test results can differ significantly from the order in which they are ranked on the basis of grades. The magnitude of these crossovers (i.e., changes in rank) can be

¹The agency believes that the enforcement data are a particularly significant source of information since the data comprise the most complete set of test results available. They reflect consistent application of test procedures under the direction of a single party, the agency, under circumstances involving the greatest incentive of any interested party to minimize variability in data, the exigencies of the certainty required for enforcement purposes. In fact, to attempt to resolve doubts as to variability, the agency has in fact refined its enforcement test procedures to a greater extent than is required by Part 575. For example, all enforcement tests are conducted by a single contractor, eliminating the influence of differences between test facilities. Highly accurate electronic scales are used to determine wheel loads. Very precise wheel alignment equipment is used. That equipment has been operated by the same skilled technicians for all compliance tests since mid-1981. Thus, NHTSA believes that statements regarding test variability which are based on these enforcement data could tend only to understate the variability experienced by others in testing tires and assigning grades.

substantial, as is shown in a graph which B. F. Goodrich constructed by plotting the agency's enforcement data against the grades assigned by the tire manufacturers for the same tires. (This is the same graph shown on page III-2 of the agency's regulatory evaluation for this rulemaking action and is similar to one prepared by Uniroyal.) Goodrich's graph includes information on radial ply tires primarily, although it also covers tires of other construction types. There are numerous examples in the graph of tires whose test results fell within a 10 point range, but whose assigned grades were spread over an 80 to 100 point range. Some tires had average test results which were 10 points below those of other tires, but were assigned grades as much as 60 or 70 points higher. Some tires assigned the same grade had average test results that were scattered over a 100 point range. These phenomena are not restricted to a particular portion of the graph, but exist throughout, from the left side where bias ply and bias belted tires predominate to the right side where radial ply tires predominate.

The magnitude and pervasiveness of the crossovers and grading quirks means that the treadwear grades have the capacity for more than simply confusing consumers about the relative performance of tires exhibiting nearly the same performance. The possibility exists for confusion even between some tires in the lower third percentile and some tires in the upper third percentile of treadwear performance. Thus, whether a prospective purchaser seeking the particular size (i.e., diameter) of tire appropriate for his or her vehicle is looking at the entire spectrum of construction types, or is focusing on a single construction type only, there is a significant possibility that the person may be misled about the relative performance of tires. The possibility is greatest in the latter case, since the smaller the difference in actual performance between tires under consideration, the greater the probability that test variability and crossovers will cause the grades of those tires to be misleading about the relative performance of those tires. The ranges in grades for particular construction types are not very large when compared with the magnitude of the problems created by test variability and crossovers. Treadwear grades typically range from 60-120 (a

60 point range) for bias ply tires of all sizes, 90-150 (a 60 point range) for bias belted tires of all sizes, 120-200 (an 80 point range) for 13 inch diameter radial ply tires, 160-220 (a 60 point range) for 14 inch diameter radial ply tires, and 170-220 (a 50 point range) for 15 inch radial ply tires. The ranges for radials are particularly relevant since radials account for most original equipment tires on new cars and a substantial majority of replacement tires for used cars.

It is considered especially significant that the occurrence of such rank changes is not uncommon. For examples for each of a majority of the tires in Goodrich's graph, other tires could be found in the graph which had a lower assigned grade but which, based on compliance test results, exhibited superior performance.

Although the agency recognizes that the graphs submitted by Goodrich and Uniroyal reflect, in part, manufacturer-to-manufacturer differences in grade assignment procedures and not just variability in test results, the agency considers the analyses made using the graphs to be significant since they point out the extent to which consumers may in fact be misled by treadwear grades. In its analysis, Uniroyal calculated a correlation coefficient of 0.763 for the two variables (test results and grades),² and a similar rank order correlation. The coefficient of 0.763 implies that only about 58 percent (the square of the correlation coefficient) of the variation in tire treadwear grades can be explained by actual differences in treadwear

²Using a slightly different data base, B. F. Goodrich calculated a correlation coefficient of 0.78 between the agency's enforcement test results and assigned grades.

³While the argument has been made that this aspect of variability should not be taken into account because it is entirely within the control of the grading manufacturer, the agency is not able to conclude from the data before it that any actually assigned grade is without basis in test data. In implementing the statute to determine whether the sanctions imposed by the statute and agency regulation should be applied to given manufacturers, the agency has been forced to conclude that all assigned grades so reviewed have been reasonable, based on agency and manufacturer supporting data. Under such circumstances, the agency finds that the overwhelming policy purpose of the UTQGS to inform consumers of comparative tire data, in a meaningful way (i.e., one that is valid, reasonably accurate, and objectively verifiable for enforcement purposes) in order to affect their tire purchase decisions, requires that this uncertainty also be taken into account.

performance. The agency estimates that as many as 10 of the 40 percentage points of unexplained variability may be due to differences in grade assignment practices.³

In reaching its decision that currently documented levels of variability are unreasonable and cannot sustain retention of the UTQGS treadwear grading requirements in their present form, the agency has been guided by two principal conclusions: first, the rank order of test results and the rank order of assigned grades can and do change with repeated testing under currently allowable procedures. This result has also taken place when the agency's own, far more carefully controlled compliance efforts are the basis for the test.

Second, the levels of certainty and predictability which the agency expected would be achieved over time and which the agency so represented to the courts which have upheld UTQGS against charges of unacceptable uncertainty, have not been achieved in fact.

At a minimum, the agency concludes that such a level of potential rank order change, under applicable test procedures, is unacceptable. The agency also concludes that unless the level of certainty previously asserted by the government in litigation can be verified to exist, the continued integrity of the process is undermined to a separate and unsupportable degree.

Agency research is thus primarily directed to the determination of the degree to which these effects can be eliminated.

Specific Sources of Variability

The agency's proposal described a variety of potential sources of variability in the treadwear test results based on a review of testing being done in San Angelo. The tire manufacturers supporting the suspension, and the commenting tire testing companies generally agreed that many of such sources contributed to test result variability. While some commenters, especially two testing companies describing in detail their own testing practices, disputed the magnitude of the variability that could be caused by several of the sources, it remains uncontroverted that the sources identified in the proposal are potential contributors to variability.

One such testing company objected to the

inference it drew from the proposal that the agency believed that the testing companies as a group were to blame for the variability in the test results. That company also stated its belief that the proposal unfairly criticized the practices of testing companies as though all such companies followed identical practices. The agency recognizes, and reaffirms its conclusions, that the primary source of test variability lies in the shortcomings of the test procedures themselves. Further, it rejects any implication that the testing companies were improperly following such procedures.

The agency emphasizes that the list of sources in the proposal was not exhaustive. The proposal specifically noted that the list was included for illustrative purposes only. It was recognized that additional research would likely reveal other sources, of the indisputable and undisputed levels of variability. Indeed, the record of comments has provided information regarding several previously unmentioned sources of variability, e.g., tire/wheel rim width combinations and the effect of rubber's high coefficient of thermal expansion on tire groove depth measurement.

The following specific sources of variability have been confirmed by the agency as a result of the current rulemaking proceeding.

Problems of instrumentation—scales. Some testing companies use scales that are designed for weighing objects up to 20,000 pounds. Scales are rarely accurate below 10 percent of their maximum measuring capacity. Since the loads being weighed for UTQGS purposes are less than half that level, the potential for inaccurately loading the tires on the test cars is obvious. This problem is compounded by the inability of many such scales to provide readings more precise than at 5 pound intervals. The combination of these factors could lead to significant potential measurement errors.

Using a ratio of 1:4 between changes in load and changes in treadwear, the agency stated in its proposal that a 20 to 30 pound error in measuring a 700 to 800 pound load could cause test results errors of ± 20 to 34 points in a tire with a treadwear grade of 200. The two tire testing companies submitting detailed comments stated that their own scales are regularly calibrated, and that maximum weighing errors of not more than 10 pounds could be expected under

such circumstances. One of the companies also argued that the ratio between load changes and treadwear changes is actually closer to 1:1. The agency cannot now determine with certainty the correct ratio between changes in tire load and changes in treadwear. Even assuming such actual ratio may be lower than 1:4, the agency believes that scale miscalibration is a factor that can potentially contribute significantly to variability in treadwear test results.

—*tread depth probes.* Tire testing companies currently measure tread depth by means of either mechanical gauges with dial indicators or electronic devices which translate probe displacement into a voltage reading in mils or thousandths of an inch. NHTSA's tests of measurement devices produced measurement errors of between 3 and 5 mils for electronic probes and up to 10 mils for mechanical gauges, with the magnitude of error appearing to depend on the amount of the pressure placed on the probe. Variations in pressure can be caused by differences in strength or technique among personnel or even by the gradual effect of fatigue on a given technician. The resulting measurement differences on tires graded from 160 to 200 can cause treadwear grading errors of ± 2 to 3 points. The two tire testing companies argued that measurement errors of 10 mils were in fact difficult to achieve and would not normally be expected to occur. The agency concurs that the typical such error would be expected to be less than 10 mils, but concludes that variation in the pressure placed on the probes remains one of the potential sources which collectively has produced high levels of test variability.

Electronic probes are subject to other sources of measurement error. The lack of temperature compensation in some of the electronic probes can cause drifts in both the zero reading and the gain. One tire testing company did note that its electronic probes are attached directly to a computer, and asserted that they are capable of measuring accurately over a wide range of temperatures. While such drift can be corrected for in such a process, the agency has determined that such corrections are not in fact routinely sought or made by testing companies in general. Further, any change in probe force at the bottom of the groove for tires with varying hardness will generate different tread depth readings

depending on the spring constant, the amount of deflection used in the design, and the shape of the tip on the electronic probe. The use of uncalibrated springs produces additional measurement differences.

—*wheel alignment equipment and procedures.* The agency has determined that treadwear is very sensitive to wheel alignment, much more so than had previously been understood by interested parties. One of the two tire testing companies agreed with this proposition. B. F. Goodrich supported this proposition by asserting that 4/32nds of an inch increase in toe-in can decrease tread life by 15 to 30 percent. Since Part 575 permits the wheels to be aligned anywhere within the vehicle manufacturers' specified range of acceptable alignments, differences in toe-in are possible. Armstrong Rubber Company cited various vehicle manufacturer specifications which had a minimum-to-maximum range of from 5/32nds to 14/32nds of an inch.

The comments on the proposal reveal that the use of different toe-in settings for a given vehicle can and do occur. Some testing companies align wheels to the minimum toe-in setting within the acceptable range while others align to the mid-point of the range. Indeed, practices of the two commenting tire testing companies vary in precisely this fashion, with one aligning to the minimum point and the other to the mid-point.

Differences in wheel alignment may also occur as a result of differences in the frequency of wheel alignment and in the skill of the technicians who perform the alignments. The two tire testing commenters asserted that they use accurate alignment equipment and well-trained personnel. Assuming this to be true for these particular companies, however, does not remove wheel alignment as a potential source of variability even with respect to their testing. As noted above, the wheel alignment practices of these two companies vary significantly. Further, for these as well as the other tire testing companies, the problem of maintaining the alignment equipment in proper adjustment is a formidable one. Although all testers have suitable alignment equipment, their success in using it to achieve accurate results depends on the skill of the technicians operating it, the calibration of the equipment, and the frequency of alignment during a test.

Problems of measurement. The agency believes that several measurement problems contribute to variability as well. Observed but currently unquantifiable measurement errors occur as a result of information feedback during testing, i.e., access by measuring personnel to the previous day's tread depth measurements and resulting conscious or unconscious bias to parallel or duplicate those measurements. The agency also believes error to be caused by the documented practice of some testing companies to establish an absolute level of coefficient of variation, i.e., the degree of variability among the separate measurements of depth in the same groove around the circumference of the tire. Some technicians tend to "hunt" for groove depths as uniform as possible around the circumference of the tire, on the understandable but not factually supportable or recognizable assumption that such variation should be minimized.

One tire testing company indicated in its comments that it took steps to avoid these sources of variability. Even assuming this company is fully successful in that effort, the agency believes that such problems exist for other testing companies, and would compromise the success of the program unless all companies were equally successful.

Problems with vehicle maintenance and use. The agency continues to believe that factors relating to the test cars produce substantial variability. One of these factors is the wide variation found in the approaches of the testing companies to achieving a proper vertical load on a tire. Some testing companies allow the weight to be placed forward of the front wheels, rearward of the rear wheels, or even on the vehicle exterior. In addition, some but not all companies place heavy deer guards on the front of their test cars.⁴

The overloading of some test cars also produces unquantifiable effects on treadwear test results. Some testing companies load their cars to whatever weight is required to achieve the appropriate load level for a test tire. As a result, the gross vehicle weight rating for the specific

cars themselves may be exceeded, necessitating the use of special springs or shims to reestablish normal ride height. Such heavy loads can cause the cars to bottom out, while the variations in springs create differences in roll stiffness and weight transfer among vehicles of the same type.

Each of these practices introduces changes in the handling characteristics of the cars and in different polar moments of inertia, between and among wheels, vehicles, and the entire test fleet. These factors would produce different rates of tire wear as the cars corner, accelerate, or decelerate.

The two commenting tire testing companies indicated that they attempt to control these sources of variability. However, there is no evidence that those efforts are fully successful, and agency observations indicate that the other companies are not in practice as careful as those two companies.

Problems with drivers and weather conditions. The agency found in its review that drivers of the test cars varied significantly in their skill and driving techniques. These differences are reflected in the frequency and severity of accelerations and decelerations. Further, the agency believes that adverse weather conditions may affect driving techniques and thereby treadwear. One tire testing company indicated that it carefully sought to limit these sources of variability. However, not all testing companies have adopted the same measures. In addition, adverse weather conditions cannot be controlled.

CMT tread composition. Most CMT's do not currently have tread composition similar to that of most candidate tires. As a result, a substantial question has been raised as to whether the use of the CMT measurements in fact validly compensate for environmental effects upon candidate tire wear. The last two lots of radial CMT's contained about 30 percent natural rubber. Most tires produced in the U.S. do not contain any natural rubber, while some Japanese tires contain substantial quantities of it. The presence of a significant percentage of natural rubber in CMT's is important since natural rubber is more sensitive to temperature changes than the current tread compounds used in tires, and in general wears at a faster rate in hot weather than the current materials do. Thus, where the CMT in use contains a large

⁴Some tire testing companies stated that weight is removed from their cars to compensate for the deer guards. However, the agency did not observe any accurate means of weight compensation.

percentage of natural rubber and the candidate tires do not, candidate tires graded in hot weather would be expected to have higher grades than those graded in cool weather.

The significance of CMT tread composition appears to be borne out by a report from B. F. Goodrich. That company stated that candidate tires made of compounds similar to that of the CMT's received more consistent ratings than those whose compounds were less similar. B. F. Goodrich's analysis indicates also that the latter tires can receive different relative rankings.

Wheel rim width. Armstrong asserted in comments that the tolerance permitted on rim widths to be used with a given size of tire is a significant source of variability. The agency lacks any corroborative information with respect to this previously unrecognized problem, but will address the issue as another potential source of variability as efforts continue to complete research on treadwear testing variability.

Grade assignment practices. There are significant differences among the tire manufacturers in the procedures they use to translate treadwear test results into grades. These differences arise partially from the differing degree of conservatism that the various manufacturers exercise in selecting a grade for a group of tires so as to ensure that the performance of all tires in the group exceed that grade as required by Part 575 (See discussion above).

Uniroyal Petition

On January 21, 1983, Uniroyal petitioned the agency to make three significant changes to the treadwear test procedures. These changes involve a new procedure for running CMT's, the rotation of candidate tires through each wheel position in a four-car convoy, and a doubling of the break-in period.

The agency has completed its preliminary review of this petition and, in view of the pendency of the current proceeding, has also taken it into account as if it were a supplementary filing to the docket.⁵

Under the Uniroyal petition, CMT's would no longer be run in the same convoys as candidate tires, but in a separate convoy using CMT's exclusively. The CMT's would be rotated through

each position in the CMT convoy. This procedure is claimed to substantially reduce vehicle and driver related sources of variability, while reducing costs. However, its validity depends upon the accuracy of Uniroyal's conclusion that the course environment factors measured by the CMT process do not produce rapidly changing treadwear effects, i.e., that the course environment effect on treadwear changes slowly, if at all.

Similarly, the rotation of candidate tires through each position in the test convoys is claimed by Uniroyal to greatly reduce driver and vehicle related variability for those tires. All vehicles in a convoy would be nominally identical. No front wheel drive vehicles could be used due, according to Uniroyal, to "load distribution problems." Uniroyal does not state how it would deal with the problem of declining number of rear wheel drive models being produced, and the difficulty in matching all tire lines with the limited number of those models.

Finally, Uniroyal found that the break-in effect for new tires occurred beyond the 800-mile period currently specified in the regulations. It stated that establishing a longer period would provide a more accurate estimate of treadwear rates.

NHTSA regards Uniroyal's petition as further evidence of the necessity for suspending the treadwear provisions of UTQGS while the agency conducts research and testing to determine the feasibility of reducing variability to more acceptable levels. Uniroyal has revealed yet another previously unidentified factor, barometric pressure, apparently capable of contributing significantly to the variability of test results. Although Uniroyal has proposed several changes which it believes would substantially reduce certain sources of variability, it does not suggest how other factors identified in its petition are to be addressed.

Those factors are barometric pressure, temperature, and wet road surfaces. Uniroyal supplied information indicating that the manner

⁵The disposition at this time of the pending notice of rulemaking does not, of course, affect the pendency of this petition before the agency, since only a suspension of the UTQGS is involved. The petition will thus be treated both as a comment to the current proposal and as a petition directed toward the modification of the suspended portion of the UTQGS and a request for their reinstatement as so modified.

in which temperature differences affect treadwear is more complicated than previously supposed. While some compounds wear more rapidly as temperature increases, Uniroyal reported the example of a tire which wore more rapidly as temperature decreased. Further, the degree of temperature affect was substantial. While Uniroyal's testing showed that one family of tires was only slightly affected by an eight-degree average temperature difference, that same difference caused a 20 percent change in wear rate for another family of tires. Further, Uniroyal noted that wet road surfaces could significantly affect the rate of treadwear and admitted that some allowance must be made for this phenomenon, but didn't indicate how that might be accomplished.

Much of the work done by Uniroyal in support of its proposal is similar to the agency's ongoing research, and it may be that the agency's efforts will lead to the development of test procedures similar to those suggested by Uniroyal. However, Uniroyal's work does not obviate the need for NHTSA to complete its own research and testing and make its own judgments about the changes that might be made to the test procedures. The agency cannot now conclude that Uniroyal's proposal would reduce test variability to acceptable levels. Much more research and testing would be necessary before the agency could even consider proposing to adopt those or any other significant changes.

Not only would the agency need to address the significance of the failure of Uniroyal's proposals to address certain sources of variability, but it would also need to examine the implications of Uniroyal's proposals which in some cases go well beyond those suggested by Uniroyal in its petition. For example, Uniroyal's proposal for rotating candidate tires through each of 16 wheel positions on test convoys would necessitate a doubling of the mileage driven by treadwear testing convoys from 6,400 miles to 12,800 miles (16 x 800). The additional expense and time necessary to conduct such extended testing would be substantial.

Further, although Uniroyal urges the making of substantial and fundamental changes to the treadwear test procedures and the theory underlying those procedures, it argues, without providing the basis for that argument, that there

would not be any necessity for retesting all tires in accordance with the modified procedures. Uniroyal apparently contemplates a marketplace in which some tires that were tested and graded under the existing, inadequate procedures are offered for sale side-by-side with others that are tested under new, revised procedures. Thus, Uniroyal would allow the continued dissemination of misleading treadwear information.

In the agency's judgment, the need to make these types of substantial and fundamental changes would render wholesale retesting and suspension unavoidable. The inescapable conclusion from the necessity of making these changes is that the grades generated under the existing procedures are unreliable and should not be presented to the public as a basis for choosing between alternative tires. Further, since the grades that would be assigned to a particular tire if tested under the current and new procedures would differ, the grades would be inherently incompatible. As a matter of responsibility to the consumer and of fairness, the agency could not contemplate the simultaneous use of two fundamentally different yardsticks to measure the treadwear performance of tires.

To avoid this situation, all tires would have to be retested and regraded. To provide time for the completion of these activities and to ensure that substantial numbers of tires graded under the existing procedures are not still in the marketplace when the tires graded under the new ones are introduced, a suspension of the treadwear testing requirements would be necessary.

Inadequacy of Alternatives

NHTSA considered several alternative courses of action in reaching its decision. In addition to suspending the treadwear grading provisions of Part 575, the agency considered rescinding them. NHTSA also considered retaining the provisions intact while it conducted its research and attempted to determine whether modifications to the test procedures and grade assignment practices could reduce variability to acceptable levels for UTQGS purposes.

Rescission. Several commenters argued that the problems with the treadwear grading program

were so substantial and intractable that rescission of the treadwear provisions was the only appropriate step for the agency to take at this time. While the agency believes that the problems now identified with respect to the UTQGS treadwear ratings are extensive and serious, that some of them can be addressed only after substantial research, and that some or all may not be fully solved even then, it is convinced there is a substantial possibility that its planned research could eventually lead to amendments that would reduce identified treadwear test result variability to acceptable levels. For example, if the agency were able to develop an appropriate procedure for rotating all tires among the cars in a test convoy, the contribution of vehicle and driver effects to test result variability might be greatly reduced. Similarly, the agency's development and adoption of statistical procedures that would bring uniformity to the translation of test results into grades might contribute significantly to reliable treadwear grading.

In such a case, any remaining variability could more confidently be able to be considered attributable to the inherent complexity of tires themselves. At that stage, a failure to attain significant improvements in the repeatability or reproducibility of tests might well force the agency to the conclusion that no grading system based on measured and projected treadwear could be possible.

Precisely because of the levels of uncertainty now understood to exist as a result of test result variability, however, the agency is not now able to assess whether or not this will likely be the case. Absent some further evidence on this point, and taking into account the positive benefits to the consumer and the orderly working of the market place which a properly functioning UTQGS treadwear system would produce, the agency is unwilling to rescind the program of treadwear rating entirely at this time.

Continue treadwear grading and make improvements in treadwear grading process as they are developed. While conceding that there are variability problems, several commenters argued that the treadwear grades are still sufficiently useful to warrant their retention. They argued further that the agency should simply proceed to make available changes to the

treadwear testing procedures and adopt other changes as they are developed. One commenter argued that if the treadwear grading information were more accurate than the information which previously existed in the marketplace, the agency was obligated to continue treadwear grading.

NHTSA believes that the critical issue is in this case not merely whether the treadwear grading provisions are currently fulfilling their statutory objective, that of assisting consumers to make informed choices in purchasing new tires, but of equal or greater importance whether such provisions may to the contrary be affirmatively frustrating the achievement of that objective. As interpreted by the 6th Circuit Court of Appeals, the UTQGS provisions in section 203 of the Act do not contemplate "theoretical perfection" in providing such assistance. *Goodrich I*, at 1189. It calls only for "reasonably fair and reasonably reliable grading procedures." *Id.* The agency believes that this is an appropriate statement of the principal underlying test of certainty which the procedures should satisfy. Procedures which fail to meet that test will tend inappropriately to increase the sales of some tires and decrease those of other tires through inaccurately representing the relative performance of either or both.

In the agency's view, it appears that the current procedures fail to meet that reasonableness test on several counts. Such procedures are not reasonably reliable because of the excessive magnitude of the overall variability.

Moreover, the grades produced under the treadwear grading procedures are not merely imperfect, they appear to be affirmatively misleading.

These problems are not minor. They do not affect only those tires which differ moderately in performance. As noted above in the discussion of the overall variability and reliability problem, the rank reversals produced by the procedures can be substantial and are not uncommon. Tires which are significantly superior to others in performance may be graded significantly below those tires, and vice versa. Tires whose test results show performance differences of up to 100 points may be assigned the same grade.

Thus, while some consumers might be aided in choosing between some tires, particularly those

with very substantial differences (greater than 100 points) in treadwear performance, there appears to be a significant likelihood that consumers choosing among closer performing tires will be misled. The agency believes that most consumers fall into the latter category. As noted above, the threshold considerations of tire size and tire construction type should lead most persons considering the purchase of a new tire to look at a universe of potential candidate tires for purchase whose treadwear grades differ by significantly less than 100 points. Accordingly, it appears that the treadwear grading procedures are neither reasonably fair to the tire manufacturers nor reasonably reliable in guiding those consumers who will in fact be purchasing tires for a given vehicle.

The agency believes that the unreasonableness of the level of reliability of the current treadwear grading procedures is compounded by the possibility that many of the identified sources of variability, and thus the overall level of variability, might eventually be able to be significantly reduced, after a period of research and testing, at costs that are not prohibitive.

The agency regulatory evaluation discusses a wide range of possible changes that the agency believes could ultimately reduce test-induced variability to more acceptable levels. Among these are requirements for calibration of alignment equipment, tighter specifications for alignment, load distribution, tire-rim width matchings and CMT composition, prohibition against information feedback, standardization of equipment calibration and tread measurement procedures, limitations on driver acceleration rates and cornering techniques, limitations on tire temperature during tread depth measurement, standardization or elimination of deer guards, standardized statistical procedure for grade assignment, and rotation of candidate and CMT's tires among test cars. The actions which appear at this point to hold the greatest potential for improving the reliability of the grades are adoption of the grade assignment procedure, rotation of the tires, more precise specification of wheel of alignment, and specification of the composition of CMT's.

The relative importance of many of these factors is currently unknown. As a result, it is not possible to determine or assess what actual result

in improved repeatability may be achievable, and how or at what level such an improved result might be determined to be acceptable. However, the agency believes that together such factors contribute substantially to the variability of treadwear test results and unreliability of the resulting grades. The agency's research efforts are expected to provide information about the relative importance of individual sources of variability and the degree to which each source can be controlled.

The agency expects that its research and testing will also provide an indication of the cost of implementing controls on these factors. Based on the costs of the current procedures, the agency has no current basis for concluding whether the costs associated with effective controls would be reasonable either separately or collectively. The current cost of treadwear testing is an average of \$.09 per tire. Based on indications from Goodyear that the retail markups for manufacturing costs may be 100 percent, that testing cost would have an \$.18 retail price effect, against a retail price of \$40 to \$70 for a new tire. Thus, for example, a doubling of testing expenses would bring the retail price effect of testing costs up to an average of only \$.36 per tire, a presumptively reasonable economic impact in and of itself.

As to the suggestion that the agency immediately commence to make changes in the treadwear testing procedures and make other changes as they are developed, the agency emphasizes that its research and testing have not proceeded sufficiently to enable it to determine either precisely how to define and implement the individual changes or which of those changes will make enough to a contribution to reducing overall variability to warrant adoption. The agency does not believe that the few currently acknowledged options would make a significant change in the overall level of variability. Identifying the range of necessary and appropriate changes will require iterative testing, given the interplay of the many sources of variability.

The issue of adopting an appropriate statistical procedure to standardize the assignment of grades bears special mention. Although the agency has already proposed such a procedure (46 F.R. 10429, February 2, 1981), commenters on that proposal pointed out a variety of shortcomings, particularly with respect to its

failure to properly account for undergrading. No commenter in the present rulemaking proceeding has suggested that the procedure as proposed in February 1981 be adopted at this time. The agency is continuing its analysis of the extent and nature of the changes which might be made to the proposal.

The agency does not agree with the suggestion by a public interest group that the mere possibility that the current treadwear grading information may be better than pre-UTQGS information on treadwear would justify continuation of treadwear grading during the period of any further review. In NHTSA's judgment, it is not clear whether and to what extent the UTQGS treadwear information would in fact be superior to any or all information previously available for distinguishing between tires on the basis of expected tread life. To the degree that the UTQGS system is arguably superior in format and direct comparability among tire lines or manufacturers, however, such apparent advantage derives entirely from those aspects of the system which the agency has found to be most flawed: the accuracy and validity of the UTQGS value as expressed in the grade. Stated differently, it is precisely that aspect of the UTQGS which distinguishes it from market claims of manufacturers which also introduces the clear probability that false information is being disseminated by or under the auspices of the government itself. The probable objective falsity of at least some of the information now being disseminated through UTQGS converts the clarity and apparent simplicity of the UTQGS reporting format from an asset to its most damaging liability. Fully cognizant of the view expressed by this commenter that some information, or a less than perfect-functioning system, is better than no information or no system at all, the agency cannot agree. The agency concludes that the government has a superior duty not to participate in such an effort to the probable detriment of consumers, who have every reason to demand, and must necessarily be expected to assume, that such participation implies and connotes, a higher level of certainty than the agency can now find in this well-intentioned effort. Given the shortcomings of the UTQGS system as now understood, price differentials and information voluntarily supplied

by the manufacturers as to probable treadwear performance may be as useful to consumers as the current grades.⁶

After weighing the possible benefits of the current grades against the potentially extensive problems created by those grades in their effects on consumers and tire manufacturers, NHTSA concludes that the appropriate course of action is suspension pending completion of its research and testing program.

The agency believes that continuing to require the tire manufacturers to comply with the treadwear grading requirements in the interim is not appropriate, because of the above discussed impossibility of enforcing those requirements in an objective way. NHTSA noted in its proposal that the wide variability in its compliance test results prevented the agency from concluding with any certainty whether tires were incapable of achieving the grades assigned to them. Commenters on the proposal did not controvert the agency's statements on this point.

In the agency's opinion, requiring the tire manufacturers and consumers to continue to bear the costs of treadwear testing during the time necessary to complete the research and testing concerning test procedure improvements would be unreasonable and unwarranted since the treadwear grading program is apparently neither reasonably fair to the tire manufacturers nor reasonably reliable as a guide to consumers. Although the cost per tire is not large, those costs total approximately \$10 million annually.

Amendments Adopted by This Notice

This notice adopts several amendments relating to the treadwear grading provisions of Part 575. Most important, it adopts a suspension of those provisions effective upon the date that this notice is published in the *Federal Register*.

⁶To compound the agency's dilemma on this point, the number of consumers potentially aided by treadwear grading information, and thus the number of consumers potentially misled by an invalid result, is apparently fairly limited. According to information submitted by Uniroyal at the public meeting, only 30 percent of consumers surveyed by them even knew about the UTQGS information, after their promotional efforts, and only 60 percent of those consumers stated they would plan to use that information in making their next tire purchase. Thus, only 18 percent of consumers are potentially benefited, or potentially misled, by the treadwear information.

On that date, manufacturers will no longer be required to submit treadwear grading information to this agency or to disseminate it to consumers through moldings on the side of new tires, paper labels on the treads on new tires, or consumer information materials. The only information that would be required to be submitted or disseminated on or after that date would be traction and temperature resistance grading information.

The agency believes there is ample justification for an immediate effective date. The suspension relieves a restriction and will aid in ending as quickly as is reasonably practicable the possibility that consumers will be misled by the treadwear grading information.

The agency is not requiring that manufacturers immediately cease disseminating treadwear information already printed or embodied on tires or tire molds, through the means formerly required by Part 575. Such a requirement would be impracticable. The greatest problem is associated with the molding of treadwear information on the tires. Discontinuation of that practice would necessitate making changes to the molds being used to produce new tires. Specifically, the manufacturers would have to fill in the indentations used to print the word "TREADWEAR" and the appropriate grade on the sidewall of each new tire. The total cost to the tire industry of making those changes to all molds would be approximately \$11 million. Instead of requiring that all molds be changed simultaneously, the agency is requiring that all tires produced in molds manufactured after (180 days after publication in the *Federal Register*), use a format which provides for the molding of only traction and temperature resistance grades on new tires.

, Although the manufacturers could cease printing labels and consumer information materials containing treadwear information almost immediately, they are confronted with the problem of existing inventories of labels and materials containing that information. The agency has decided to allow the manufacturers to exhaust those inventories. The agency expects that after the effective date of this suspension, the labels and materials printed and used by the manufacturers to comply with the UTQGS provisions of Part 575 will not contain that

information. The continued printing of labels and materials that set forth the treadwear grades without revealing the suspension of the treadwear requirements, or the absence of any participation by the government in procedures to use similar tests or measurement systems as a basis for warranties or other forms of representation as to treadwear expectancy, would be doubly misleading, i.e., it could be misleading as to the relative performance of tires, but also would be misleading as to the current existence of a government sanctioned system for grading treadwear.

The agency believes that the publicity given this notice will minimize the likelihood that consumers will be misled as a result of the continued molding of treadwear information on some new tires and the continued dissemination for a relatively short period of treadwear information by means of labels and other materials. Probable media coverage of the agency's conclusions in taking this action should reduce the extent of any consumer reliance on them. Further, consumers would be even less likely to rely on the grades after the existing inventories of those labels and materials are exhausted. After then, only the grade would appear on the tire. There would not be any explanatory information concerning the development or meaning of the grade. As the molds are replaced, even the treadwear grade would disappear from the tire, during the pendency of this suspension.

Status of Research

As NHTSA noted in its proposal, it has begun several research activities aimed at reducing the variability of treadwear test results. The agency is proceeding diligently to complete these activities. One program discussed above would attempt to establish the relationship between treadwear, tire inflation pressure, and load. The program to develop this relationship is partially completed, with final results expected by the end of February. If such a relationship could be established, it could aid future research to determine the effects of rotating tires through all positions in test car convoys. Rotating tires in this fashion would tend to minimize the variability that is caused by differences in

vehicles and in driver techniques. A contract to test the validity of the rotation concept is expected to be awarded by late spring of this year.

Another program is aimed at establishing the effect of reducing tolerances on permitted test vehicle loading configurations, wheel alignment, driver techniques, and tread depth measurement techniques. A contract for this program is expected to be awarded soon.

A third program will attempt to quantify the individual sources of treadwear test variability

through a statistical analysis of existing enforcement data. This research program has already begun and should be completed by the end of February.

Research planned for the future includes an attempt to achieve greater accuracy in test equipment, to specify test vehicle maintenance procedures, and to account for differences in the testing and tread depth measurement environment. A contract for this work is expected to be awarded by late summer of this year.

Issued on February 1, 1983.

Raymond A Peck, Jr.
Administrator
48 F. R. 5690
February 7, 1983

PREAMBLE TO AN AMENDMENT TO PART 575

Customer Information Regulations; Uniform Tire-Quality Grading

[Docket No. 80-14; Notice 8]

[Docket No. 25; Notice 54]

ACTION: Final rule.

SUMMARY: This notice amends the Uniform Tire Quality Grading Standards (UTQGS) by revising the procedure used to establish tire loads under which temperature-resistance tests are conducted. This amendment is being issued to make test loads under the temperature-resistance test consistent with test loads specified for the high-speed test in Federal Motor Vehicle Safety Standard (FMVSS) 109. It is anticipated that this amendment will assure that UTQGS temperature-resistance tests and FMVSS 109 high-speed tests may, to the maximum possible extent, be conducted together.

DATE: This amendment is effective July 1, 1984. Certain minor technical amendments in the notice are effective immediately on publication.

SUPPLEMENTARY INFORMATION: On December 17, 1981, NHTSA amended FMVSS 109, which establishes performance requirements for new automobile tires, by deleting the tire tables in Appendix A of that standard. Information in these tables was previously used, among other purposes, to specify tire test loads under the UTQGS. Therefore, with the deletion of the tire tables of FMVSS 109, it was necessary to establish alternative procedures for determining UTQGS test loads. Interim procedures were established by NHTSA on June 15 and August 12, 1982, in 47 FR 25930 and 34990, and public comment was invited on the adopted technical approaches. On August 19, 1982, the agency issued a notice of proposed rulemaking, inviting further public comment on other possible approaches to be used in specifying test loads under the UTQGS. See 47 FR 36260.

This notice establishes these procedures in final form.

The UTQGS establish procedures for testing tires to evaluate their traction, temperature resistance, and tread-wear performance. (On February 7, 1983, NHTSA suspended the tread-wear portion of the UTQGS, pending the completion of research intended to determine the causes of the high levels of test variability found in tread-wear test results, and to reduce that variability. (See 48 FR 5690.)) The test procedures specify loads to be placed on the tire. Those loads differ for each of the three types of tests. Prior to the deletion of the FMVSS 109 tire tables, temperature-resistance tests were conducted at the maximum load specified in those tables for a tire pressure 8 pounds per square inch (psi) below the tire's maximum inflation pressure. Tread-wear tests were conducted at 85 percent of the load for temperature-resistance testing. Traction tests were conducted at 85 percent of the maximum load specified in the tire tables for tire pressures of 24 psi or 180 kilopascals, as appropriate.

With the deletion of the tire tables, the agency developed a range of numerical factors which relate a tire's maximum load rating, as stated on the tire's sidewall, to the appropriate test load. Rather than relying on the tables, manufacturers or others conducting tests under the UTQGS would simply multiply the maximum load by the factor to determine the test load. This procedure resulted in at most a 10-pound change in the load at which tests were conducted, for all but a small number of tires. For these remaining tires, the agency provided that tests would be conducted at the same load as was done prior to June 15 (relying on the tire tables), until July 1, 1984. After that date, test loads would be determined by us-

ing the load factors.

Shortly after the load-factor procedure was established the Rubber Manufacturers Association and the Cooper Tire Company raised objections to it. These parties pointed out that prior to the deletion of the tire tables, a single test could be used to demonstrate compliance with high-speed requirements under FMVSS 109 and temperature-resistance testing under the UTQGS. However, after the deletion of the tire tables, slightly different loads would be specified for those two purposes. (When the tire tables were deleted, NHTSA specified a single test-load factor of 88 percent of the tire's maximum load for high-speed testing under FMVSS 109.)

On August 19, 1982, NHTSA issued a notice of proposed rulemaking, inviting comment on methods for restoring equivalent load specifications for purposes of high-speed testing under FMVSS 109 and temperature-resistance testing under the UTQGS. The agency proposed three possible methods for achieving this result, and requested that commenters present any other alternatives they felt appropriate. The three NHTSA alternatives were:

(1) To amend the UTQGS temperature-resistance test by deleting the load factors and specifying a single 88-percent factor, as was done with FMVSS 109.

(2) To amend the FMVSS 109 high-speed test by deleting the 88-percent factor and adopting the series of load factors used in the UTQGS temperature-resistance test.

(3) To amend FMVSS 109 and the UTQGS by relying on load information published by industry standardization organizations such as the Tire and Rim Association and The European Tyre and Rim Technical Organization. This approach would be much the same as the procedure previously followed by the agency in relying on the FMVSS 109 tire tables.

Virtually all comments received on the agency's notice of proposed rulemaking recommended adopting the third alternative, since it is the closest to past practice and would assure that test data derived under the pre-June 15 procedures would still be valid. Also, some tire manufacturers felt this option would minimize the "load range creep" phenomenon, in which tire manufacturers were encouraged by vehicle manufacturers to increase incrementally the load rating of a tire, thus permitting the use of a smaller, less

expensive tire for a given automobile. These increases could ultimately result in overloaded tire operation. The tire manufacturers felt that the existence of tabulated load information would discourage the load creep phenomenon. On the other hand, the European Tyre and Rim Technical Organization favored the first alternative (testing at 88 percent of maximum load), due to the simplicity of that approach.

NHTSA has concluded that the first alternative is preferable, and is herein amending the UTQGS accordingly. That alternative has the advantage of being the simplest to use, and has been shown to work well in FMVSS 109. The agency is concerned that adoption of alternative 3 could result in the reinstitution of NHTSA tire tables. Information on tires not listed by one of the standardization organizations would be submitted to NHTSA under that alternative. However, commenters requested that information on such tires be published by NHTSA to make it available to all interested parties, thereby resulting in new tire tables, albeit on a smaller scale. The possibilities also exist of inconsistent data entries for tires appearing in more than one table and omissions of certain tires from all tables. The undesirability of this unwieldy system is clear and the disadvantages of the continued reliance on tire tables was discussed fully in the notices involving the deletion of the FMVSS 109 tire tables.

With regard to the load range creep phenomenon, the agency does not agree that the third alternative would discourage such actions to any greater degree than would the other alternatives. Under the third option, all a manufacturer would have to do to change a tire's load rating would be to submit new information to a standardization organization. Further, the agency has ample authority to deal with this problem and will take appropriate action to prevent such actions where safety would be jeopardized.

In the case of the second option, amending FMVSS 109 to adopt varying load factors would disrupt testing programs under that standard which have worked well for the past year using the 88-percent load criterion. Further, adopting the varying load factors is slightly more complex than using the single 88-percent factor. Therefore, the agency considers option 1 to be the preferable alternative.

Adoptive alternative 1 will produce no changes in tire testing under FMVSS 109. However, the

Rubber Manufacturers Association points out that adoption of this alternative will increase tire test loads for UTQGS purposes by from 1 to 3 percent for certain tires.

For the vast majority of currently produced tires (p-metric sizes with maximum inflation pressure of 240 kilopascals), the increase in test load is approximately 1.6 percent. An increase in load of this small a magnitude is insufficient to affect temperature-resistance grades. Also, the majority of tires are graded "C" for temperature resistance, a grade which merely signifies minimum compliance with the high-speed test of FMVSS 109. Therefore, increasing the test loads for UTQGS temperature-resistance purposes (which should theoretically make that test more stringent) will not affect the grades of those tires. Therefore, the amendments promulgated herein should impact only a very small number of tires. To the extent that the adoption of identical test loads for the FMVSS 109 high-speed test and the UTQGS temperature-resistance test permits the two tests to be run together, this amendment will produce an overall reduction in testing costs.

This amendment is being made effective on July 1, 1984, to coincide with the effective date for test-load factors for traction and tread-wear testing for all tires, as specified in the August 2, 1982, Federal Register notice.

Two minor amendments are also being promulgated in this notice for which, due to their technical nature, the agency finds good cause for making effective immediately. The first of these adds three size designations to table 2A of the UTQGS, as requested by the Japanese Automobile Tire Manufacturers Association. This addition will avoid (until July 1, 1984) having to test these tires at significantly different test loads than those specified through the FMVSS 109 tire tables. The second technical amendment clarifies that the traction-test pavement-wetting procedure is that specified in the 1979 version of American Society for Testing and Materials Method E 274.

Since this rule should not cause any significant change in implementation of the UTQG regula-

tion, NHTSA has determined that this proceeding does not involve a major rule within the meaning of Executive Order 12291 or a significant rule within the meaning of the Department of Transportation regulatory procedures. Further, there are no significant economic impacts of this action, so that preparation of a full regulatory evaluation is unnecessary.

The agency has also considered the impacts of this rule in accordance with the Regulatory Flexibility Act. I certify that this action will not have a significant economic impact on a substantial number of small entities. As noted above, this action will make essentially no change in the implementation of the UTQG regulation.

NHTSA has concluded that this action will have essentially no environmental consequences and therefore that there will be no significant effect on the quality of the human environment.

Part 575—CONSUMER INFORMATION REGULATIONS

In consideration of the foregoing, 49 CFR Part 575 is amended as follows:

1. Section 575.104(g)(6) is revised to read as follows:

* * * * *

(g) * * * * *

(6) Press the tire against the test wheel with a load of 88 percent of the tire's maximum load rating as marked on the tire sidewall.

2. Section 575.104(h)(1) is revised to read as follows:

(h) *Determination of test load.* To determine test loads for purposes of paragraphs (e)(2)(iii) and (f)(2)(viii), follow the procedure set forth in paragraphs (h)(2) through (5) of this section.

3. Table 2 of section 575.104 is amended by deleting the words "and temperature resistance" from the heading of the middle column of the table.

4. Table 2A of section 575.104 is amended by adding the following new entries at the bottom of the table:

Tire size designation	Temp resistance Max. pressure			Traction	Tread-wear Max. pressure		
	32	36	40		32	36	40
5.20-14	695	785	855	591	591	667	727
165-15	915	1015	1105	779	779	863	939
185/60 R 13	845	915	980	719	719	778	833

5. The references to "ASTM Method E 274-70" in sections 575.104(f)(1)(iii) and (f)(1)(iv) are deleted and replaced by "ASTM Method E 274-79."
 Issued on March 5, 1984.

Diane K. Steed
 Administrator

48 FR 8929
 March 9, 1984

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations Operation of Utility Vehicles on Paved Roadways (Docket No. 82-20; Notice 2)

ACTION: Final rule.

SUMMARY: This final rule adds a new requirement to the *Consumer Information Regulations*, applicable to "utility vehicles", i.e., multipurpose passenger vehicles which have a short wheelbase and special features for occasional off-road use. Some of these special features cause utility vehicles to handle and maneuver differently from ordinary passenger cars under certain driving conditions. A driver who is unaware of the differences and who makes sharp turns or abrupt maneuvers when operating utility vehicles on paved roads may lose control of the vehicle or rollover. To inform drivers of the handling differences between utility vehicles and passenger cars, this amendment requires manufacturers to place a prescribed sticker on the windshield, dashboard or some other prominent location of the vehicle to alert operators. In addition, the new regulation requires manufacturers to include information in the vehicle *Owner's Manual* concerning the proper method of on- and off-road driving for utility vehicles.

DATES: This amendment is effective September 1, 1984.

SUPPLEMENTARY INFORMATION: This notice amends the *Consumer Information Regulations* (49 CFR 575) to add a new requirement applicable to "utility vehicles"—multipurpose passenger vehicles (49 CFR 571.3) which have a short wheelbase and special features for occasional off-road operation. This new regulation addresses a safety concern resulting from a possible lack of owner awareness about the proper handling and operation of utility vehicles. These vehicles have features which cause them to handle and maneuver differently than ordinary passenger cars under certain on-pavement driving conditions. Those features include: short wheelbase, narrow track,

high ground clearance, high center of gravity, stiff suspension system and, often, four-wheel drive. Examples of utility vehicles in current production include: AMC Jeeps, Chevrolet Blazer, Ford Bronco, Dodge Ram Charger, Toyota Land Cruiser, and the GMC Jimmy.

Because of the drivers' apparent unfamiliarity with the unique characteristics of these vehicles (their higher center of gravity, narrower track and stiffer suspensions), utility vehicles are more likely to go out of control or roll over than passenger cars during sharp turns or abrupt maneuvers on paved roads, especially at high speeds. Certain research studies appear to indicate that utility vehicles are disproportionately represented in rollover accidents than are passenger cars, and that the rates of death and disabling injury per accident could be twice as high for utility vehicles. (These studies are discussed more fully in this notice.)

In response to these factors, the agency issued a notice of proposed rulemaking on December 30, 1982 (47 FR 58323) to require a new consumer information regulation which would require manufacturers to alert utility vehicle drivers of the unique handling characteristics of these vehicles. As noted in that proposal, the agency believes that the differences in safety statistics and apparent performance with regard to utility vehicles are likely influenced by the lack of awareness by utility vehicle drivers concerning the operational characteristics of these vehicles, especially under conditions approaching the limits of vehicle performance. The occurrence of accidents at observed rates makes it clear that operators do not understand or appreciate the need for adjusting their driving habits to coincide with physical differences between utility vehicles and ordinary passenger cars.

The proposed amendment to the *Consumer Information Regulations* specified a prescribed sticker which manufacturers would be required to place in a prominent vehicle location to alert drivers concerning the special handling characteristics of utility vehicles. Additionally, the proposed regulation specified that manufacturers would be required to include information in the vehicle *Owner's Manual* concerning the proper method of handling and maneuvering these vehicles when driven on paved roads.

There were twenty comments to the notice of proposed rulemaking. Nearly all of these supported promulgation of the proposed new regulation, in principle. However, many commenters did not accept the agency's basis for the rulemaking and nearly all of the comments recommended various changes. The following is a discussion of the major comments, along with agency's response and final conclusions.

Basic Premise of the New Regulation

The proposal cited a study conducted by the Highway Safety Research Institute of the University of Michigan which found that utility vehicles rollover at a rate at least five times higher than that experienced by the average passenger car ("On Road Crash Experience of Utility Vehicles", see NHTSA Docket 82-20). In addition, the proposal noted that NHTSA fatal accident report data indicate that on a statistical basis, given a rollover accident, occupants are more likely to be killed in utility vehicles than in passenger cars (probability twice as high). Several manufacturers took strong exception to the Michigan study and challenged its scientific accuracy in certain regards, citing statements by the study's author that it was not a definitive project. Although these manufacturers did not oppose the proposed new regulation, they strongly objected to using the cited research as support for the regulation. Several manufacturers also stated that the proposal focused too narrowly on the physical characteristics of utility vehicles and failed to take into account the driver and environmental factors which affect the safety operation of these vehicles.

The agency did not intend to imply that it is only the unique physical characteristics of utility vehicles which are responsible for the great number of accidents in these vehicles. The basic premise of the new regulation, as evidenced by

statements in the proposal, is that drivers are apparently unaware of the unique handling characteristics of these vehicles as compared to ordinary passenger cars, and that this coupling of unique vehicle attributes and lack of awareness is apparently a large part of the problem.

Regarding the research cited in the proposal, the agency also did not intend to imply that further study would not be advantageous or that the Michigan study is an exhaustive, definitive statement concerning the actual accident experience of utility vehicles. However, the agency does believe that the information from the Michigan study, together with NHTSA's own data and other research cited below, is sufficiently reliable to indicate that utility vehicles are involved in a substantial number of accidents which appear to be related to their unique handling characteristics, of which their operators may not be fully aware.

In addition to the research mentioned in the proposal, the agency also notes the following information which has been submitted to the Docket concerning this proceeding: "A Comparison of the Crash Experience of Utility Vehicles, Pickup Trucks and Passenger Cars," Reinfurt, et al., Highway Safety Research Center, University of North Carolina, September 1981; "Analysis of Fatal Rollover Accidents in Utility Vehicles," S. R. Smith, NHTSA, February 1982; "Insurance Losses Personal Injury Protection Coverage, Passenger Cars, Vans, Pickups, and Utility Vehicles, 1979-1981 Models," HLDI, 1-18-1, September 1982. These studies also indicated significant rollover accident experience with utility vehicles. While it may be true that these studies do not quantify the contributions of the various possible causes of this accident experience (vehicle characteristics, driver characteristics, vehicle use, environmental factors, etc.), the agency believes that this research does indicate a serious problem which should be brought to the attention of vehicle owners and which can be alleviated by the dissemination of information to alert vehicles owners and drivers.

Application

Several commenters requested changes and clarifications in the definition of "utility vehicle" as set forth in the proposal's application section. The proposal specified the following:

"This Section applies to multipurpose passenger vehicles which have special features for occasional off-road operation ('utility vehicles')."

Commenters noted that the utility vehicles at issue typically have a wheelbase of 110 inches or less and recommended that this specification be added to the definition so that other vehicles are not inadvertently included in the regulation's application. Manufacturers were particularly concerned that certain vehicles such as long wheel base utility trucks like the General Motors "Suburban" line, motor homes and multi-use recreational vehicles would be included even though they do not have the same rollover propensities as utility vehicles. The Insurance Institute for Highway Safety argued that the application of the rule should be limited to those vehicles most likely to present rollover concerns. The agency generally agrees with these concerns. As noted in the proposal, the vehicles which are intended to be covered are those with relatively short wheelbases, narrow tracks, high ground clearances, high centers of gravity and stiff suspensions. The proposal also mentioned four-wheel drive as a characteristic of utility vehicles. While four-wheel drive is typically a characteristic of those vehicles, it was mentioned in the proposal only because it is descriptive of the majority of vehicles at issue. Four-wheel drive in and of itself, however, has very little to do with the rollover propensities involved in this rulemaking, and the agency did not intend to include a vehicle simply because it had four-wheel drive if it did not also have the characteristics which necessitate alerting drivers to special handling methods.

After reviewing these comments and information concerning the vehicles at issue, the agency has determined that the definition should include a 110-inch wheel base specification in order to segregate those vehicles which are disproportionately involved in rollover accidents. Thus, as specified in this new regulation, utility vehicles are multipurpose passenger vehicles which have a wheel base of 110 inches or less and special features for occasional off-road operation (which may or may not include four-wheel drive).

One manufacturer recommended that the new regulation also apply to four-wheel drive light pickup trucks (GVWR of 8,500 pounds or less) as well as to utility vehicles. The manufacturer did

not supply any information, however, indicating that the same accident experience occurs with respect to light pickup trucks. Moreover, data before the agency do not indicate that this vehicle class has a different rollover experience than ordinary passenger cars. Therefore, the fact that certain pickup trucks have four-wheel drive does not seem to be sufficient reason for including this vehicle type in the standard's application. As noted earlier, there is no indication that four-wheel drive alone leads to the rollover propensities which are the subject of this rulemaking action. The agency will continue to monitor the accident experience of these vehicles, however, to determine if they should be included in the standard at some time in the future.

Sticker Location

The proposal preceding this new regulation specified that manufacturers shall affix a sticker to "the instrument panel, windshield frame or in some other location in each vehicle prominent and visible to the driver", to alert drivers concerning the special handling characteristics of utility vehicles. Several commenters requested that this requirement specifically include the driver's sun visor as an acceptable location for the required sticker. One commenter stated that the warning should be of a more permanent nature than a sticker affixed to the windshield or instrument panel. That commenter stated that, if the sticker is located on the instrument panel, it should be behind the plastic lens so that it cannot be removed, arguing that the sticker should remain permanently affixed so that subsequent vehicle owners are made aware of "the vehicle's sensitivity to certain maneuvers."

The agency considers the driver's sun visor to be a "prominent" location in a vehicle, and is modifying the language of this requirement to specifically mention that vehicle location. The agency agrees that the sticker should be of a permanent nature, but does not believe that it is necessary at this time to require the sticker to be placed, for example, behind the plastic lens of the instrument panel. There is no wish to place design restrictions on manufacturers, but the agency does intend for the sticker to be permanently affixed in a prominent position and readily visible to drivers. Stickers similar to the placard required in FMVSS 110 would be considered adequate.

Sticker and Manual Language

A majority of the commenters recommended clarification and changes in the prescribed language for the warning sticker and information in the vehicle *Owner's Manual*. The proposal specified that the sticker shall have the language prescribed "or similar language", and included the following caveat:

"The language on the sticker required by this paragraph may be modified as is desired by the manufacturer to make it appropriate for a specific vehicle design, to ensure that consumers are adequately informed concerning the unique propensities of a particular vehicle model."

As proposed, this caveat was not applicable to the language required in the vehicle *Owner's Manual*. Numerous commenters requested that this flexibility be allowed for the *Owner's Manual* as well. One commenter stated that there is no way the sticker can "ensure" consumers are adequately informed. One commenter requested that manufacturers be allowed to place the required information in any section of their *Owner's Manual* they choose, rather than in the "introduction" and "on-pavement" driving sections as prescribed in the proposal. Several commenters also suggested that the word "rollover" be specifically included in the required warnings, on the basis that "loss of control" does not sufficiently describe the hazard.

The agency agrees that language flexibility may be useful for the *Owner's Manual* as well as for the prescribed sticker, in order to ensure that consumers are adequately informed concerning the unique characteristics of a particular vehicle design. That modification is made in this notice. The agency believes that the objection to use of the word "ensure" in the specified caveat is a matter of semantics since the agency's intent is that manufacturers make every attempt to adequately inform its customers. It was for this reason that the language flexibility is being allowed. The agency also agrees that use of the word "rollover" in the sticker and *Owner's Manual* might more accurately describe the possible consequences of sharp turns or abrupt maneuvers than the phrase "loss of control" used alone. Accordingly, that word is added to the language specified in this notice. Finally, the agency agrees that manufacturers should be allowed to place the required "on-

pavement" driving information in any prominent location of their *Owner's Manual* they desire, rather than only in a section specifically labeled "on pavement driving". However, the agency believes that the specified introductory statement must be included in the Manual's introduction (or preface) so that any person consulting the *Manual* will be aware that driving guidelines are included in the *Manual*.

One commenter requested that the required information be allowed in a supplement to the *Owner's Manual*, i.e., a separate pamphlet. The agency has no objections to additional, or comprehensive supplements which further describe driving methods and operating procedures for utility vehicles (one manufacturer currently provides such a Supplement). However, the agency believes that the two prescribed (or similar) statements should be placed in the general *Owner's Manual* since some operators might be more likely to consult the *Manual*, which includes all information concerning their vehicles, than they would supplements. Further, the required statements are short and should not be onerous to manufacturers.

Effective Date

The proposal specified that the new regulation, if promulgated, would become effective 60 days after publication of a final rule. Several manufacturers stated that their *Owner's Manuals* are typically updated only at the beginning of a new model year and that longer than 60 days is needed to comply with the requirements of the regulation. After considering these comments, the agency has concluded that the new regulation should become effective September 1, 1984, coincidental with the typical introduction of new models. This is longer than the 60-days leadtime specified in the proposal and should allow all manufacturers sufficient time to comply with the requirements.

NHTSA has examined the impacts of this new regulation and determined that this notice does not qualify as a major regulation within the meaning of *Executive Order 12291* or as a significant regulation under the Department of Transportation regulatory policies and procedures. The agency has also determined that the economic and other impacts of this rule are so minimal that a regulatory evaluation is not required. The prescribed sticker and additional information required in the vehicle *Owner's Manual* will result in only minimal costs

for vehicle manufacturers and will not likely result in any cost increase for consumers.

The agency also considered the impacts of this rule under the precepts of the *Regulatory Flexibility Act*. I hereby certify that the regulation will not have a significant economic impact on a substantial number of small entities. As just discussed, the cost of the required sticker and information will be extremely small. Accordingly, there will be virtually no economic effect on any small organiza-

tions or governmental units which purchase utility vehicles. Moreover, few, if any, vehicle manufacturers would qualify as small entities under the Act.

Issued on May 7, 1984.

Diane K. Steed
Administrator
49 F.R. 20016
May 11, 1984

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations Operation of Utility Vehicles on Paved Roadways [Docket No. 82-20; Notice 3]

ACTION: Final rule, response to petitions for reconsideration.

SUMMARY: This final rule responds to petitions for reconsideration filed by American Motors Corporation and Subaru of America, Inc., with regard to the agency's requirement that manufacturers of utility vehicles inform drivers of those vehicles of the propensity of such vehicles to rollover. American Motors and Subaru pointed out in their petitions that the scope of this requirement includes certain passenger car derivatives such as the AMC Eagle and the Subaru four-wheel drive vehicles which do not have the operating characteristics which were the focus of the rule. Therefore, the agency is herein clarifying the regulations to exempt passenger car derivatives.

EFFECTIVE DATE: This amendment is effective September 1, 1984.

SUPPLEMENTARY INFORMATION: On May 11, 1984, NHTSA amended its Consumer Information Regulations (49 CFR 575) to add a new requirement applicable to "utility vehicles"—multipurpose passenger vehicles (49 CFR 571.3) which have a short wheelbase (110 inches or less) and special features for occasional off-road operation. See 49 FR 20016. This new regulation addresses a safety concern resulting from a possible lack of owner awareness about the proper handling and operation of utility vehicles have features which causes them to handle and maneuver differently than ordinary passenger cars under certain on-pavement driving conditions. Those features include: short wheelbase, narrow track, high ground clearance, high center of gravity, stiff suspension

system and, often, four-wheel drive. Examples of utility vehicles in current production which were cited in the agency's final rule include: AMC Jeeps, Chevrolet Blazer, Ford Bronco, Dodge Ram Charger, Toyota Land Cruiser, and the GMC Jimmy.

On June 11, 1984, the agency received petitions for reconsideration of the utility vehicle labeling rule from American Motors Corporation and Subaru of America, Inc. Both manufacturers pointed out that although the preamble to the agency's final rule indicated that the rule was intended to apply to a class of vehicles with attributes which might tend to increase the likelihood of vehicle rollover (high center of gravity, narrow track, stiff suspension, etc.), the actual language of the rule applied to certain vehicles without these attributes. In particular, these manufacturers were concerned that the labeling requirements would apply to their four-wheel drive vehicles which are derived from passenger cars, i.e., the American Motors Eagle and the Subaru four-wheel drive station wagons, sedans, and Brat. Both manufacturers requested that the agency clarify the scope of the rule to exclude these vehicles.

Since the American Motors and Subaru vehicles in question are certified as multipurpose passenger vehicles under 49 CFR Part 567, have a wheelbase of 110 inches or less and have four wheel drive, they would fall within the "utility vehicle" definition in the Consumer Information Regulations, and would therefore be subject to the rollover warning label requirements. However, the manufacturers are correct in pointing out that the main thrust of the agency's May 11 rule was to regulate the more traditional types of utility vehicles, such as the Jeep CJ series and the Toyota Land Cruiser.

To assess the appropriateness of subjecting the Eagle and Subaru model lines to the labeling requirements, the agency analyzed its accident data to determine the frequency of involvement in fatal rollover accidents for various types of vehicles. Fatality data were obtained from the agency's Fatal Accident Reporting System, while vehicle registration information was obtained from R. L. Polk data. The rollover rate for the Eagle is much lower than that for the more traditional utility vehicles, and is, in fact, lower than that for all passenger cars. This data strongly supports the American Motors argument that the Eagle should not be subject to the labeling rule. The case for the Subaru vehicles is less clear, since their rollover fatality rate is between that of passenger cars and the more traditional utility vehicles. However, the Subaru four-wheel drive vehicles have a rollover fatality rate which is virtually identical to that of their two-wheel drive counterparts, which are not subject to the labeling requirement, and is still only about $\frac{1}{4}$ that of more traditional utility vehicles. Subaru submitted data with its reconsideration petition indicating that the handling characteristics of the Subaru four-wheel drive vehicles are on a par with those of passenger cars, and superior to those of more traditional utility vehicles. Therefore, the agency is exempting passenger car derivative multipurpose passenger vehicles from the rollover labeling requirements. These vehicles are typically based upon a passenger car chassis, then modified to have certain attributes common to trucks or utility vehicles. The Subaru and Eagle vehicles are the only vehicles currently sold in the United States which fall within this exemption.

The amendments promulgated herein are effective September 1, 1984, to coincide with the effective date of the May 11 labeling rule. The agency finds good cause for making this amendment effective less than 180 days after publication. The amendment relieves an inappropriate restriction, avoiding the need to provide warning information in vehicles which do not pose an unusual risk of rollover.

NHTSA has examined the impacts of this new regulation and determined that this notice does not qualify as a major regulation within the meaning of Executive Order 12291 or as a significant regulation under the Department of Transportation regulatory policies and procedures. The agency has also determined that the economic and other impacts of this rule are so minimal that a regulatory evaluation is not required. The rule merely exempts a small number of vehicles from the labeling rule, which imposed minimal costs. The agency also considered the impacts of this rule under the precepts of the Regulatory Flexibility Act. I hereby certify that the regulation will not have a significant economic impact on a substantial number of small entities. The cost of the required sticker and information will be extremely small, and only a small number of vehicles are being exempted. Accordingly, there will be virtually no economic effect on any small organizations or governmental units which purchase utility vehicles. Moreover, few, if any, vehicle manufacturers would qualify as small entities under the Act.

In consideration of the foregoing, paragraph 575.105(b) is amended to read as follows:

§575.105 Utility Vehicles

(b) *Application.* This section applies to multipurpose passenger vehicles (other than those which are passenger car derivatives) which have a wheelbase of 110 inches or less and special features for occasional off-road operation ("Utility vehicles").

Issued on August 6, 1984.

Diane K. Steed
Administrator

49 FR 32069
August 10, 1984

PREAMBLE TO AN AMENDMENT TO PART 575

Uniform Tire Quality Grading Standards Effective Dates for Reimplementation of Treadwear Grading

[Docket No. 25; Notice 58]

ACTION: Final rule.

SUMMARY: This rule sets forth the effective dates for the reimplementation of the treadwear grading requirements under this agency's Uniform Tire Quality Grading Standards (UTQGS). Those requirements were suspended after the agency found high levels of variability in treadwear test data and grade assignment practices. The United States Court of Appeals for the District of Columbia Circuit vacated the agency's suspension of the treadwear grading requirements on April 24, 1984.

In response to the court, NHTSA published a notice on August 13, 1984, proposing dates on which tires would again be required to comply with the treadwear grading requirements. Subsequently, the agency learned that there were some problems with reimplementing treadwear grading for bias belted tires by the proposed dates. Therefore, the agency published a notice on September 12, 1984, asking for public comment on what effect, if any, this newly discovered information should have on the proposed schedule for reimplementing treadwear grading for bias belted tires.

Despite these agency actions to reinstate treadwear grading, the U.S. Court of Appeals issued an order on September 27, 1984, finding NHTSA in violation of its April 24 order, and directing the agency to either reinstate the treadwear grading requirements in full "forthwith" or to apply to that court for a modification of the mandate and provide a reasonably prompt reimplementation schedule. NHTSA filed an application for a modification of the mandate on October 11, 1984. On October 31, 1984, the U.S. Court of Appeals granted NHTSA's application and ordered NHTSA to reimplement

treadwear grading in accordance with the schedule proposed by NHTSA in its October 11 filing. That same schedule is set forth in this rule.

DATES: In the case of bias ply tires, requirements that treadwear information be included on paper labels affixed by tire manufacturers to tire treads and for the submission of consumer information brochures to NHTSA for review are reimplemented effective December 15, 1984. Those brochures are required to be distributed to prospective purchasers by tire dealers effective January 15, 1985. Requirements regarding the molding of treadwear grades on tire sidewalls become effective again on May 15, 1985.

In the case of bias belted tires, requirements that treadwear information be included on paper labels and for the submission of the consumer information brochures to NHTSA for review are reimplemented effective March 1, 1985. The brochures must be distributed to prospective purchasers effective April 1, 1985. The requirements regarding the molding of treadwear grades on tire sidewalls become effective again on August 1, 1985.

In the case of radial tires, requirements that treadwear information be included on paper labels and for the submission of the consumer information brochures to NHTSA for review are reimplemented effective April 1, 1985. The brochures must be distributed to prospective purchasers effective May 1, 1985. The treadwear grades must be molded on the sidewall of all new radial tires manufactured on or after September 1, 1985.

In the case of vehicle manufacturers, the requirements to include treadwear grading information in the vehicle consumer information are reimplemented effective September 1, 1985.

The amendments made to the UTQGS by this rule are effective December 19, 1984. This action is taken to permit those manufacturers which choose to do so to comply with the treadwear grading requirements before the mandatory reimplementation dates listed above.

SUPPLEMENTARY INFORMATION: NHTSA suspended treadwear grading requirements under the UTQGS at 48 FR 5690, February 7, 1983. This action was announced after the agency found high levels of variability in treadwear test results and in the grade assignment practices of the various tire manufacturers. This variability resulted in a substantial likelihood that treadwear information being provided to the public under this program would be misleading, i.e., that the assigned grades could, in many instances, incorrectly rank the actual treadwear performance of different tires.

On April 24, 1984, the United States Court of Appeals for the District of Columbia Circuit vacated the agency's suspension of the treadwear grading requirements in *Public Citizen v. Steed*, 733 F.2d 93. NHTSA interpreted the court's action as requiring the agency to reimplement the treadwear grading requirements at the earliest reasonable time. To comply with this interpretation of the court order, NHTSA published a notice of proposed rulemaking at 49 FR 32238, August 13, 1984. That proposal set forth the following dates for reimplementing treadwear grading requirements:

AUGUST 13 SCHEDULE

	Bias Ply and Bias Belted Tires	Radial Tires
Tire manufacturers complete testing	November 15, 1984	June 15, 1985
Affix paper labels and submit brochures to NHTSA for review	December 15, 1984	July 15, 1985
Distribute brochures to the public	January 15, 1985	August 15, 1985
Modify all molds to include treadwear	May 15, 1985	December 15, 1985
Include treadwear grading in vehicle manufacturer's consumer information booklet	September 1, 1985	

The reason for proposing different reimplementation dates for bias ply and bias belted tires, on the one hand, and radial tires, on the other, was the need to procure new course monitoring tires (CMT's, for the radial tires. As of that date, NHTSA believed that its existing supply of bias ply and bias belted CMT's would be adequate for testing those tire types. This fact would allow the manufacturers to begin their testing very quickly, which would in turn allow the treadwear grading requirements to be reimplemented more quickly.

However, shortly after publication of that notice, the agency determined that its existing supply of bias belted CMT's showed unacceptably high levels of variability, and concluded that it would be inappropriate to use such tires as CMT's. A notice announcing these determinations was published at 49 FR 35814, September 12, 1984. This notice asked for public comment on what effect, if any, this newly discovered information would have on the dates proposed for the reimplementation of treadwear grading for bias belted tires.

Despite these agency actions to reimplement treadwear grading, the U.S. Court of Appeals issued an order on September 27, 1984, finding the agency in violation of the court's April 24 order. The court gave the agency a choice of either immediately reinstating treadwear grading in full, or, within 14 days of September 27, applying to the court for a modification of its earlier order and providing the court with a reasonably prompt schedule for reimplementing the treadwear grading requirements.

In accordance with this order, NHTSA applied for a modification of the court's April 24 mandate on October 11, 1984. This application was accompanied by a proposed schedule for reimplementing treadwear grading and an affidavit in support thereof. The schedule which the agency proposed to the court is shown on the next page.

This schedule was the same as that proposed in the August 13 notice for reimplementing treadwear grading for vehicle manufacturers and for bias ply tires. However, it accelerated the reimplementation of treadwear grading by 3 1/2 months from what had been proposed for radial tires in the August 13 notice, and postponed the proposed dates for bias belted tires by 2 1/2 months. In formulating this revised schedule, NHTSA considered all nine comments received on the August 13 notice, and the one comment it

PROPOSED SCHEDULE

	Bias Ply Tires	Bias Belted Tires	Radial Tires
Tire manufacturers complete testing	November 7, 1984	February 1, 1985	March 1, 1985
Affix paper labels and submit brochures to NHTSA for review	December 15, 1984	March 1, 1985	April 1, 1985
Distribute brochures to the public	January 15, 1985	April 1, 1985	May 1, 1985
Modify all molds to include treadwear	May 15, 1985	August 1, 1985	September 1, 1985
Include treadwear grading in vehicle manufacturer's consumer information booklet		September 1, 1985	

received on the September 12 notice. The agency received an additional comment regarding the September 12 notice on October 12, the comment closing date for that notice. That additional comment was not considered by the agency in preparing its October 11 application.

The court issued an order on October 31, 1984, granting NHTSA's application for a modification of the court's earlier mandate, and ordered the agency to reimplement treadwear grading according to the schedule proposed by the agency in its October 11 application. This final rule implements the court's October 31 order.

Comments received on previous notices. As noted above, all but one of the comments received in response to the agency's August 13 and September 12 notices were considered while the agency formulated the revised schedule for reimplementing treadwear grading which was submitted to the court on October 11. What follows is a brief explanation of the agency's response to the more significant comments.

The petitioners in the U.S. Court of Appeals submitted their motion to enforce judgment, which they filed with the court, as a comment to the agency on its August 13 proposed schedule. The essential allegation of that motion was that the August 13 schedule was not reasonably prompt. NHTSA responded to this allegation in considerable detail in the application and affidavit in support thereof filed with the court on October

11. Rather than repeat this lengthy response herein, this rule incorporates by reference the application and affidavit filed October 11 as the agency response to petitioners' comments. Copies of the application and affidavit are available in Docket No. 25, Notice 58, and any interested persons are advised to contact the Docket Section to obtain a copy of those documents.

Several tire manufacturers commented that the August 13 notice was unclear as to whether the agency would permit tire manufacturers to modify their molds to show treadwear grading information prior to the dates by which they were required to modify all their molds. These manufacturers stated that they wanted to modify some of their molds before the effective dates when they had to have all of their molds modified. This issue arises because of amendments made to the UTQGS in connection with the agency's suspension of the treadwear grading requirements. Since NHTSA had concluded that there was a substantial likelihood that treadwear information would be misleading, the UTQGS were amended to prohibit the sidewalls of tires from showing any treadwear grades. As long as that prohibition, contained in 49 CFR §575.104(i)(2)(ii), remains in effect, tire manufacturers may not legally begin converting their molds to show the treadwear grades on the sidewalls of their tires.

NHTSA wishes to encourage the manufacturers to reimplement the treadwear grading require-

ments as expeditiously as possible, to comply with the decision in *Public Citizen v. Steed*, supra. The agency intended to allow manufacturers to implement any of the necessary steps, including not just the molding of the grades on the sidewall, but also paper labels and the submission and distribution of consumer information brochures, as soon as was feasible. If some requirements can be satisfied by a particular manufacturer prior to an effective date specified in this rule, it would serve no interest to prohibit that manufacturer from disseminating treadwear grading information to consumers. Hence, a manufacturer is permitted to comply with any of these reimplemented treadwear grading requirements in advance of the effective dates specified herein. These dates represent the agency's best judgment as to the earliest dates by which it would be reasonable to require *all* tires to again comply with the treadwear grading requirements. However, manufacturers may comply with the requirements of this notice sooner than the mandatory effective dates, if they wish. To make this intent more clear, a statement has been added to the DATES section to the effect that the amendments made by this rule take effect upon publication. This action immediately removes the prohibition on molding treadwear grades on the sidewalls of tires, which was a part of the action taken by NHTSA in connection with the decision to suspend treadwear grading.

Most tire manufacturers also indicated that they could meet the dates proposed in the August 13 notice for reimplementing treadwear grading for radial tires, albeit "with some difficulty". This notice accelerates that schedule by shortening the time available for the agency's completion of its tasks while retaining the proposed amount of time following these tasks for the manufacturers to achieve compliance. This acceleration was made possible as the result of CMT's being made available to the agency more quickly, and the agency accelerating its own testing. The time periods allowed to the manufacturers for completing each step of the reimplementation process (3 months for testing, 1 month to print paper labels and draft the consumer information brochure to be submitted to NHTSA for its review, 1 month to distribute the brochures to all dealers, and 6 months to modify all molds) will require the manufacturers to move expeditiously, but are reasonable for completing each of the needed steps.

One manufacturer asked for additional time in reimplementing treadwear grading for radial tires imported from other countries. The comment stated that there is a logistical problem in shipping the tires for testing into the U.S., clearing them through customs, shipping the tires to Texas for testing, conducting the tests and evaluating the data, printing the labels in the U.S. and shipping them overseas, and finally affixing the paper labels to the tires for sale before shipping them into the United States to be offered for sale. The comment concluded by requesting an additional 2 months period for affixing paper labels to imported radial tires, and for an additional 1 month to modify all molds to include the treadwear grade.

NHTSA considered these logistical problems. However, the agency believes that radial tires to be imported into the United States can be shipped early enough so that the tires will be in Texas for testing very early, since the foreign producers are well aware of the logistical burdens confronting them. The testing and analysis for these tires would then be among the first completed on radial tires. While the agency agrees that it is more difficult for manufacturers of imported tires to reimplement treadwear grading than manufacturers of domestic tires, the agency believes that the time allotted for reimplementing is feasible and reasonable for all manufacturers. Accordingly, the schedule set forth in this final rule establishes the same dates for compliance with radial tire treadwear grading requirements for both foreign- and domestically-produced tires.

The comments on the proposed dates for reimplementing treadwear grading for bias ply tires all indicated that those dates were feasible, and those dates have been adopted as proposed.

Three manufacturers asked in their comments for an additional month for testing bias belted tires. That would be the same period of time allotted for testing radial tires. The August 13 notice proposed to allow only 2 months for testing bias belted tires, since there are only about 350 bias belted tire designs. Radial tires, for which 3 months were proposed for testing, are produced in about 1,400 designs. Hence, the difference in the number of tires to be tested suggested to NHTSA that bias belted tire testing could be completed in less time than would be needed for radial tire testing. The commenters asking for additional testing time for bias belted tires did not provide any evidence that the proposed 2 months for

testing bias belted tires was insufficient. Absent such evidence, NHTSA has no basis for concluding that the proposed 2-month period for testing is insufficient. Accordingly, this final rule adopts the proposed 2-month testing period for bias belted tires.

The only comment addressing the proposed date for reimplementing treadwear grading requirements for vehicle manufacturers stated that the proposed September 1, 1985, date was acceptable as long as the agency had a final rule published by March 1, 1985. This rule is published well in advance of that date.

Impact analyses. NHTSA has determined that this final rule is neither "major" within the meaning of Executive Order 12291 nor "significant" within the meaning of the Department of Transportation regulatory policies and procedures. The treadwear grading is being reimplemented in its current form as a result of the court decision in *Public Citizen v. Steed*, supra, and the dates set forth herein for reimplementation were ordered to be established by the same court in its October 31, 1984, order. The agency is required to comply with those court orders. Most of the analysis in the regulatory evaluation which accompanied the agency's suspension of treadwear (Docket No. 25; Notice 52) is still applicable to this rule. In that regulatory evaluation, NHTSA estimated that the costs of treadwear grading were about \$10 million annually to tire manufacturers and brand name owners. That is equivalent to less than 6 cents per tire. These costs are well below the level for classifying a rule as a major action. A separate regulatory evaluation has not been prepared for this rule, because the costs and impacts of treadwear grading set forth in the regulatory evaluation accompanying the suspension of treadwear grading are still the agency's estimate of the effects of treadwear grading.

Pursuant to the Regulatory Flexibility Act, the agency has considered the impacts of this rule on small entities. I hereby certify that this rule will not have a significant economic impact on a substantial number of small entities. Therefore, a regulatory flexibility analysis is not required. NHTSA concluded that few, if any, of the manufacturers and brand name owners are small entities. To the extent that any of these parties are small entities, the additional costs imposed by reimplementing treadwear grading for passenger-car tires are slightly less than 6 cents per tire (\$10

million total costs/178 million passenger car tires produced annually). This does not constitute a significant economic impact. Small organizations and small governmental units will be minimally affected in their tire purchases as a result of the minimal additional costs imposed by reimplementing treadwear grading. Further, those minimal costs will have minimal impacts on the costs and sales for any tire dealers which might qualify as small entities.

NHTSA has also considered the environmental impacts of this rule. While it is possible that reimplementation of treadwear testing may have some negative effects on the environment around the Texas test course in terms of increased fuel consumption and increased noise and air pollution, NHTSA has concluded that the environmental consequences of this rule are of such limited scope that they will clearly not have a significant effect on the quality of the human environment.

Effective date. As noted above, the amendments made by this rule are effective as of the date this rule is published in the *Federal Register*. NHTSA has taken this step so that the tire manufacturers and brand name owners who wish to reimplement any portion of the treadwear grading requirements in advance of the dates by which they are required to do so may follow that course of action. Prior to the effective date of these amendments, §575.104(i) prohibits manufacturers from molding treadwear grades on the sidewalls of tires. Manufacturers and brand name owners which are unable or unwilling to reimplement treadwear grading in advance of the mandatory compliance dates specified herein will not be affected by an immediate voluntary compliance date for these amendments, because they are not required to reimplement before the mandatory compliance dates. There is also a public interest in complying with the court orders as soon as possible. For these reasons, NHTSA has concluded that there is good cause for specifying an immediate effective date for the amendments made by this rule.

In consideration of the foregoing, 49 CFR §575.104 is amended as follows:

1. By revising paragraph (i) and adding new paragraphs (j), (k), and (l) to read as follows:

* * * * *

(i) *Effective dates for treadwear grading requirements for radial tires.*

(1) Treadwear labeling requirements of §575.104 (d)(1)(i)(B)(2) apply to tires manufactured on or after April 1, 1985.

(2) Requirements for NHTSA review of treadwear information in consumer brochures, as specified in paragraph 575.6(d)(2), are effective April 1, 1985.

(3) Treadwear consumer information brochure requirements of paragraph 575.6(c) are effective May 1, 1985.

(6) Treadwear sidewall molding requirements of §575.104(d)(1)(i)(A) apply to tires manufactured on or after September 1, 1985.

(j) *Effective dates for treadwear grading requirements for bias ply tires.*

(1) Treadwear labeling requirements of §575.104 (d)(1)(i)(B)(2) apply to tires manufactured on or after December 15, 1984.

(2) Requirements for NHTSA review of treadwear information in consumer brochures, as specified in paragraph 575.6(d)(2), are effective December 15, 1984.

(3) Treadwear consumer information brochure requirements of paragraph 575.6(c) are effective January 15, 1985.

(4) Treadwear sidewall molding requirements of §575.104(d)(1)(i)(A) apply to tires manufactured on or after May 15, 1985.

(k) *Effective dates for treadwear grading requirements for bias belted tires.*

(1) Treadwear labeling requirements of §575.104 (d)(1)(i)(B)(2) apply to tires manufactured on or after March 1, 1985.

(2) Requirements for NHTSA review of treadwear information in consumer brochures, as specified in paragraph 575.6(d)(2), are effective March 1, 1985.

(3) Treadwear consumer information brochure requirements of paragraph 575.6(c) are effective April 1, 1985.

(4) Treadwear sidewall molding requirements of §575.104(d)(1)(i)(A) apply to tires manufactured on or after August 1, 1985.

(l) *Effective date for treadwear information requirements for vehicle manufacturers.*

Vehicle manufacturer treadwear information requirements of §§575.6(a) and 575.104(d)(1)(iii) are effective September 1, 1985.

2. By deleting Figure 6.

Issued on December 14, 1984.

Diane K. Steed
Administrator

49 F.R. 49293
December 19, 1984

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations; Vehicle Stopping Distance [Docket No. 83-09; Notice 2]

ACTION: Final rule.

SUMMARY: This rule amends the requirements of the Consumer Information Regulations by deleting the requirement that vehicle stopping distance information be provided to first purchasers of new passenger cars and motorcycles at the time the vehicle is delivered to the first purchaser. The agency has taken this action because the primary purpose of the consumer information is to permit prospective purchasers to obtain as much comparative information as possible *before* deciding which particular model to buy. Information provided *after* the consumer has purchased the vehicle cannot serve that purpose. Since NHTSA is unaware of any other value to the consumer being given stopping distance information after purchasing a new vehicle, this rule rescinds that requirement. Based on cost information provided by General Motors, the agency estimates that this action will save vehicle manufacturers over one million dollars annually.

EFFECTIVE DATE: This rule is effective July 24, 1987.

SUPPLEMENTARY INFORMATION: This rule amends the requirements of 49 CFR Part 575, *Consumer Information Regulations*, to delete the requirement that manufacturers of passenger cars and motorcycles provide stopping distance information to the first purchasers of their vehicles at the time of delivery of the new vehicle. The primary purpose underlying the requirement that vehicle manufacturers provide consumers with stopping distance information is to provide consumers with comparative information on different vehicles so that they can consider this information when deciding which new vehicle to purchase. Stopping distance information that is given to consumers after they have purchased a new vehicle does not serve this purpose.

Vehicle manufacturers have been required to provide stopping distance information to first

purchasers of new vehicles at the time of delivery of the vehicle ever since the original consumer information regulations were published at 34 FR 1246, January 25, 1969. At this time, however, it is not clear what benefits the agency believed first purchasers would derive from information provided to them after they had purchased the vehicle. The preamble to the 1969 rule requiring manufacturers to provide such information explained only that, "This regulation is intended to be the initial part of a comprehensive program to supply the consumer with information concerning safety and other performance characteristics of motor vehicles." 34 FR 1247. No further explanation was set forth in the final rule or any other document of how or why the agency believed it would be helpful to consumers to obtain stopping distance information for vehicles *after* they had purchased the vehicle. The agency is not aware of any empirical or analytical evidence that stopping distance information is or could be useful to consumers after they have purchased a new vehicle. Therefore, the requirement to provide this information to first purchasers is deleted from Part 575 by this rule.

Under the requirements as they existed before today's amendment, stopping distance information was required to be disseminated to consumers via three separate sources. First, §575.6(a) requires manufacturers to provide the first purchasers of new vehicles with stopping distance information at the time of delivery of the new vehicle. Second, §575.6(c) requires stopping distance information to be provided by each vehicle manufacturer to each of its dealers, so that prospective purchasers can examine the information in the dealer's showroom at no cost. Third, §575.6(d) requires the stopping distance information to be provided by each vehicle manufacturer to NHTSA, so that it can be made available to the public in NHTSA's Technical Reference Library and upon request.

General Motors Corporation (GM) filed a petition for rulemaking with the agency, in which GM asked that the requirements for vehicle manufac-

turers to disseminate stopping distance information about their vehicles be deleted altogether. GM asserted that the stopping distance information was not actually used by consumers, that it was not a meaningful comparison between different vehicles, and that dissemination of the stopping distance information was an unnecessary economic burden on the vehicle manufacturers. In response to this petition, NHTSA carefully reexamined the requirements that stopping distance information be disseminated to consumers via the three separate sources identified above.

As a result of this reexamination, NHTSA published a notice of proposed rulemaking (NPRM) on June 30, 1983. 48 FR 30166. This NPRM proposed to delete the requirement that manufacturers provide stopping distance information to the first purchasers of new vehicles, since this information does not become available to the consumer soon enough to serve the primary purpose of these consumer information regulations. However, the agency did not propose to delete the requirements that vehicle manufacturers provide stopping distance information to their dealers and to this agency. The agency stated in the NPRM that it did not agree with GM's assertion that the stopping distance information was not meaningful to consumers. While some manufacturers report that their vehicles stop exactly at the maximum stopping distance allowed under Standard No. 105, *Hydraulic Brake Systems* (49 CFR §571.105), most manufacturers reported that their vehicles stop in a shorter distance. The differences in reported stopping distance could be used by consumers to make comparative evaluations of the vehicles. Further, the NPRM noted that 14 percent of the dealerships surveyed by that company reported that they had been asked by consumers for stopping distance information. The NPRM stated that these requests "indicate that the information is being used by the public and NHTSA is reluctant to curtail the amount of information available to the public when that information is reliable and can be provided at a reasonable cost." 48 FR 30167. Based on GM's estimates of its own costs for providing stopping distance information to the three sources presently required by Part 575, NHTSA estimated total costs to vehicle manufacturers at \$266,000 if stopping distance information were required to be provided only to each dealer and this agency. This translates to less than 3 cents for each new car and motorcycle sold, and NHTSA tentatively adjudged this to be a reasonable cost for providing the information.

The NPRM also sought comments on the desirability of requiring vehicle manufacturers to

permanently affix a label to the vehicle, setting forth the stopping distance information. Such labeling would ensure that continuing availability of stopping distance information to subsequent purchasers of the vehicle. The current practice of putting stopping distance information in the owner's manual or in a separate consumer information booklet can result in the stopping distance information not being available to the subsequent purchasers of the vehicle.

After publication of this NPRM, NHTSA undertook research to gain a better understanding of consumer awareness of and interest in NHTSA's consumer information programs, and to learn if there were ways in which the consumer information programs could be made more useful to consumers. The final report is entitled "Consumer Attitudes Toward Consumer Information Programs," and is available in the General Reference section of Docket No. 83-09. This report indicated that most consumers are satisfied with the information available to them when purchasing a vehicle. There is, however, a small segment of car buyers who actively seek information about vehicles when making a purchase and would prefer that more information be made available. This segment's interest in the subject of stopping distance increases when they are informed that stopping distances for comparable vehicles may vary.

The agency received 12 comments on the NPRM. Nine of these 12 comments were submitted by vehicle manufacturers. Each of these manufacturers supported the proposal to delete the requirement that stopping distance information be provided to first purchasers at the time of delivery of a new vehicle. However, all nine of the vehicle manufacturers disagreed with the agency's decision to continue requiring stopping distance information to be provided to each of their dealers and to NHTSA.

Along with its petition, GM submitted a survey of 162 of its dealers. Of these 162 dealers, 140 had not received a single request for stopping distance information, while 22 (14 percent) had received such requests. The 22 dealers that received requests for stopping distance information received an average of five such requests each. In the NPRM, the agency stated, "The fact that 14 percent of the dealerships surveyed by GM received requests for stopping distance information indicates that the information is being used by the public and NHTSA is reluctant to curtail the amount of information available to the public when that information is reliable and can be provided at a reasonable cost." 48 FR 30167.

All nine of the commenting vehicle manufacturers stated in their comments that the public had shown little or no interest in stopping distance information. Most of these commenters questioned the agency's interpretation of the GM dealer survey, and suggested that sales-weighting of the survey results would show that very few consumers requested the information. GM stated that by adjusting the requests received by the number of potential purchasers passing through each dealership, NHTSA would conclude that less than 1/10 of 1 percent of prospective purchasers had requested stopping distance information. Volkswagen raised the same point in its comments. Suzuki Motor Co., Ltd. (Suzuki) provided a survey of 50 of its dealerships in its comments. Suzuki's survey showed that 30 of 50 dealers had no requests for the information, 13 of 50 had one percent or fewer of their customers ask for stopping distance information, 4 dealers had 5 percent of their customers ask for the information, and 3 dealers said that 10 percent of their customers asked for stopping distance information.

Admittedly, the GM and Suzuki surveys, as well as the agency's own research of this topic, show that most consumers do not request stopping distance information from dealers. However, NHTSA does not believe that consumer information requirements need to be justified by a majority vote of consumers. If majority use of information were the test, it seems likely that few, if any, consumer information requirements could pass this test. For instance, whether or not most consumers read the list of ingredients on processed food, the point of that consumer information requirement, as is the case for the stopping distance information requirements, is to permit those consumers that choose to do so to obtain useful comparative information on different products *before* deciding which of the products to purchase. The surveys submitted by the commenters and the agency's own research indicate that some consumers do use the information in this manner. The agency believes this number is not insignificant. NHTSA believes it would be inappropriate to curtail the amount of information available to these consumers simply because other consumers do not use this information when making their purchase decisions.

American Motors Corporation commented that there was no evidence that stopping distance information was actually used by consumers in making the purchase decision. Mercedes-Benz commented that it was doubtful that stopping distance information would be a decisive criterion for a consumer in choosing a particular car. As noted above, the agency's consumer research indicated that a

small minority of consumers are interested in stopping distance information. Some consumers asserted that stopping distance information could be used as an indicator for assessing the car as a whole, while others perceived stopping distance information as crucial information all by itself. These research findings do not directly contradict the assertions of either commenter. However, the findings do indicate that some consumers are interested in stopping distance information and that the information would be useful to those consumers when making their purchase decisions. Since this is the reason for requiring the information to be made available, NHTSA is not persuaded by the manufacturers' comments.

Several commenters stated that stopping distance information *as currently reported* is not useful to consumers. Volkswagen stated that the example offered in the NPRM of the differing reported stopping distances for the three largest U.S. automakers illustrated why the stopping distance information was not useful to consumers. The NPRM noted that the 1982 stopping distances reported by Ford and Chrysler showed that all of their domestically produced vehicles stop at exactly the maximum distance permitted by Standard No. 105, *Hydraulic Brake Systems* (49 CFR §571.105), while GM reported that its vehicles stopped on average in about 5 percent less than the maximum permissible distance.

First, Volkswagen stated its doubts that both Ford and Chrysler build all of their cars to stop exactly at the limit prescribed by Standard No. 105. Instead, Volkswagen stated that the reported stopping distances do not reflect the actual performance of the vehicles, but are "very conservative estimates." Volkswagen stated that the companies have a very strong incentive to overstate the actual stopping distances, so as to minimize consumer complaints that the car does not perform up to expectations. By being "conservative," Volkswagen stated that the manufacturers avoid consumer complaints, but also dilute the usefulness of the stopping distance information for comparative purposes. Hence, Volkswagen concluded that the requirement to provide stopping distance information should be rescinded altogether.

NHTSA does not agree with Volkswagen's premise that most manufacturers will follow this practice of reporting conservative estimates. For 1986, Ford and Chrysler were the only manufacturers that reported that their vehicles stopped at the limit specified in Standard No. 105. The other 16 manufacturers reported some value under that limit. Additionally, two manufacturers have in-

cluded stopping distance information in some of their television advertising during the past two years. This indicates either that those manufacturers believe that stopping distance information is an aspect of vehicle performance in which some consumers are interested or that stopping distance is indicative of the image they are trying to achieve for their vehicles. In either case, the advertising strategy of these manufacturers uses stopping distance information to distinguish the performance of one vehicle from another to try to influence consumers. Thus, no matter how plausible the Volkswagen premise sounds, it is simply not borne out by the facts.

Even if the premise were true, it is not clear to the agency why the commenter concluded that the requirement to report stopping distance information should be rescinded for all manufacturers, since some manufacturers have chosen not to report useful stopping distance information. To the contrary, it seems more responsible to conclude that some steps should be taken to encourage all manufacturers to report more representative stopping distance information. Indeed, it is possible that the marketplace itself will force manufacturers to report more representative stopping distance information, if the aforementioned advertising campaigns are effective. Alternatively, the agency could "market" the facts about stopping distance: stopping distance is an important safety attribute of a vehicle, not all comparable vehicles perform equally, and good driving skills become better when combined with better braking performance. By trying to get all manufacturers to provide more representative stopping distance information to consumers, the agency would better achieve its goal of informing consumers of performance differences in cars. If the agency rescinded the stopping distance requirements altogether, it would have simply abandoned that goal.

The Automobile Club of Southern California (ACSC) also directed its comments towards the practice of some vehicle manufacturers just publishing the limits allowed under Standard No. 105 as the stopping distance for all of their vehicles. ACSC commented that disseminating such information is not useful to consumers, and recommended that Standard No. 105 be reevaluated by the agency to determine if the results obtained according to Standard No. 105's test procedures are sufficiently accurate and useful as probable indices of the braking performance for the vehicles tested. This comment was probably based on the erroneous assumption that vehicle manufacturers are required to report the actual stopping distances measured under Standard No. 105 as the stopping

distance information under Part 575. Instead, Part 575 requires only that vehicle manufacturers report stopping distance values that can be *met or exceeded* by the group of vehicles in question. Those manufacturers that have chosen to report the Standard No. 105 stopping distance limit for all their vehicles have chosen a value that can be *exceeded* by the overwhelming majority of vehicles. If a regulatory change were chosen as the means for addressing this problem, it could be accomplished by amending Part 575 without changing the test procedures in Standard No. 105.

As stated earlier, Volkswagen commented on the NPRM's example that the 1982 stopping distance information reported by the three largest U.S. auto manufacturers showed that two of the three reported that all their vehicles stopped in the maximum distance allowed by Standard No. 105, while the other manufacturer reported that its vehicles generally stopped in a distance that was 5 percent less than the maximum allowed under Standard No. 105. According to Volkswagen, the 5 percent shorter stopping distance was "inconsequential" and "certainly not a good reason to purchase a vehicle." This comment misunderstands the purpose of the consumer information regulations. Under these regulations, manufacturers of new vehicles are required to provide consumers with pertinent safety information about the particular vehicles they might purchase. Thus, whether or not a 5 percent stopping distance difference is a good reason to choose a particular vehicle, it is a decision to be made by consumers and making such information available to consumers is the underlying purpose of the consumer information regulations.

American Motors Corporation stated its opinion that a consumer information program is not needed for stopping distance, because Standard No. 105 already specifies performance requirements for vehicle stopping distance. What is omitted from this argument is that Standard No. 105, like all of the Federal motor vehicle safety standards, merely establishes minimum levels of performance necessary for safe operation of vehicles on the public roads. The amount by which a vehicle exceeds those minimum levels, if any, is still relevant and useful information for consumers contemplating the purchase of that vehicle. Therefore, NHTSA does not find this argument persuasive.

After considering all the comments received, this agency has decided to amend Part 575 to incorporate the proposed actions with respect to the dissemination of stopping distance information. Vehicle manufacturers are no longer required to provide stopping distance information to the first

purchasers of new vehicles at the time of delivery of the vehicle. As noted in the NPRM, the purpose of requiring the dissemination of the stopping distance information is to provide consumers with relevant safety information on the different vehicle models they are considering purchasing. Requiring such information to be provided to consumers *after* they have just purchased a new vehicle does not serve this purpose. As explained at the beginning of this preamble, NHTSA is unaware of any other purpose that would be served by providing stopping distance information to consumers after they have purchased a new vehicle. No commenters disagreed with this proposed determination, or suggested some purpose that would be served by providing stopping distance information after a consumer has purchased a new vehicle.

On the other hand, the agency believes that the requirements to disseminate stopping distance information to each dealer and to this agency could serve the above-described intended purpose. Moreover, this purpose can be served while imposing minimal burden and cost on the vehicle manufacturers.

The National Automobile Dealers Association (NADA) indicated its support for the changes proposed in the NPRM. However, NADA asked that, in conjunction with the proposed amendments, the agency retain the requirements that manufacturers provide the stopping distance information to dealers free of charge and in sufficient quantity. NHTSA did not propose to amend those requirements, and has not changed them in this rule. Therefore, this rule will not result in any increase in burden for the dealers.

The NPRM asked for comments on the desirability of requiring the stopping distance information to be permanently labeled on vehicles, so as to ensure its availability for subsequent purchasers of the vehicles. One commenter, an individual, supported this idea, stating that it was "obvious that labels with stopping distance information would be best for consumers."

All of the other commenters that addressed this topic opposed the idea for a number of reasons. The motorcycle manufacturers stated that there is almost no place to put another label on a motorcycle. They believed that if stopping distance information requirements were to be retained for first purchasers, the manufacturers should be allowed to continue printing it in the owner's manuals. Several passenger car manufacturers stated that proper maintenance of the vehicle was a far more significant factor in a vehicle's braking performance for subsequent purchasers than was its braking performance when it was delivered to

the first purchaser. GM commented that requiring permanent labels to disseminate stopping distance information would cost manufacturers twice as much as requiring the information to appear in owner's manuals.

The agency sought comments on this topic to learn if there was an effective and inexpensive way to make stopping distance information available to prospective purchasers of used vehicles, in the same way that such information is available to prospective purchasers of new vehicles. If the information could be used for comparative purposes by persons shopping for a used car, NHTSA was considering proposing a requirement that stopping distance information be permanently affixed to new vehicles.

However, the agency agrees with the comments stating that maintenance of a particular vehicle would have the greatest impact on that particular vehicle's braking performance. This gives rise to the possibility that subsequent purchasers could be misled by the stopping distance information labeled on a vehicle. For instance, a vehicle with very good braking performance when it was new may subsequently exhibit very poor braking performance because of inadequate maintenance by the owner. A person purchasing the vehicle might be led to believe that the braking performance was still very good, because of the stopping distance label. NHTSA believes that any labeling requirement for stopping distance information would give rise to this potential misuse. Accordingly, the agency has no plans to propose adopting a stopping distance labeling requirement.

As explained above, the agency has concluded that no purpose was served by the requirement that vehicle manufacturers provide first purchasers with stopping distance information at the time of delivery of the new vehicle. The amendment made by this rule will relieve vehicle manufacturers of this unnecessary restriction, without lessening the information available to potential purchasers *before* they make a final purchase decision. Accordingly, the agency finds for good cause that this final rule should become effective immediately upon publication in the *Federal Register*, instead of 30 days after publication as is generally required by 5 U.S.C. 553(d).

In consideration of the foregoing, 49 CFR Part 575 is amended as follows:

1. The authority citation for Part 575 is revised to read as set forth below and the authority sections following §§575.6, 575.7, and 575.104 are removed.

AUTHORITY: 15 U.S.C. 1392, 1401, 1407, 1421, and 1423; delegation of authority at 49 CFR 1.50.

2. 49 CFR §575.6(a) is amended by revising the first sentence to read as follows:

§575.6 Requirements.

(a) At the time a motor vehicle is delivered to the first purchaser for purposes other than resale, the manufacturer of that vehicle shall provide to the purchaser, in writing and in the English language, the information specified in §§575.103 and 575.104 of this part that is applicable to that vehicle and its tires.

Issued on July 20, 1987

Diane K. Steed
Administrator

52 F.R. 27806
July 24, 1987

PREAMBLE TO AN AMENDMENT TO PART 575

Consumer Information Regulations (Docket 88-04; Notice 2)

ACTION: Final rule

SUMMARY: This notice amends Standard No. 109, *New Pneumatic Tires*, to include an additional maximum inflation pressure, 340 kPa, in the Standard. Before the effective date of this rule, the Standard requires that the maximum permissible inflation pressure for each tire must be either 32, 36, 40 or 60 psi, or 240, 280 or 300 kPa. The European Tyre and Rim Technical Organization (E.T.R.T.O.) submitted a petition for rulemaking requesting the inclusion of the 340 kPa pressure. After evaluating the petition and comments on the proposal, NHTSA has decided to include 340 kPa as a permissible inflation pressure.

EFFECTIVE DATE: June 20, 1988

SUPPLEMENTARY INFORMATION: Until the effective date of this rule, Standard No. 109, *New Pneumatic Tires*, requires that the maximum permissible inflation pressure for each tire must be 32, 36, 40 or 60 psi, or 240, 280 or 300 kPa. The standard specifies differing test criteria depending upon the maximum permissible inflation pressure.

The European Tyre and Rim Technical Organization (E.T.R.T.O.) submitted a petition for rulemaking requesting the inclusion of an additional inflation pressure, 340 kPa, in Standard No. 109. The petitioner stated that its members are receiving requests with increasing frequency from vehicle manufacturers for reinforced tires at an inflation pressure higher than 300 kPa, for purposes of safety and optimum vehicle handling. The requests for these tires are primarily for station wagons. E.T.R.T.O. requested that a pressure of 340 kPa be added, so that the standard inflation pressure for reinforced tires (280 kPa) can be increased for special performance requirements with no increase in tire load capacity.

On January 18, 1988, NHTSA published a notice of proposed rulemaking to allow a new maximum permissible tire inflation pressure. (53 FR 936.) NHTSA addressed petitions raising almost identical issues in 1978. As discussed in the January 18, proposal, the 300 kPa maximum pressure for non-reinforced tires was added to the standard in response to those petitions. The relationship of the 300 kPa non-reinforced

tire to the standard inflation pressure (240 kPa) non-reinforced tire is analogous to that of the 340 kPa reinforced tire to the 280 kPa reinforced tire. Thus, NHTSA tentatively concluded that the 340 kPa tire pressure should be added to Standard No. 109 for the same reasons the 300 kPa pressure was added. The agency explained its reason in detail in the January 18 proposal.

The agency received comments from Chrysler Motors Corporation, General Motors Corporation, General Tire, and Volkswagen of America. Each commenter endorsed the proposal. NHTSA is adopting the proposed changes for the reasons expressed in the proposal.

Further, the agency is issuing a conforming amendment to Table 1, 49 CFR 575.104, *Uniform Tire Quality Grading Standards*, to set out the 340 kPa maximum permissible inflation pressure. The agency inadvertently neglected to propose the Table 1 amendment when NHTSA issued the proposed rule. Without such an amendment, NHTSA could not conduct compliance testing for UTQGS of tires with a 340 kPa maximum inflation pressure. The agency finds that there is good cause for amending Table 1 without notice and comment because the amendment adds no new substantive requirement for tires with a 340 kPa maximum inflation pressure.

The agency finds that there is good cause for making this final rule effective in less than 180 days because the amendment relieves a restriction, and permits the sale of tires that can provide better performance without any negative impact on safety.

Impact Assessments

The agency has analyzed this proposal and determined that it is neither "major" within the meaning of Executive Order 12291, nor "significant" within the meaning of the Department of Transportation's regulatory policies and procedures. The amendments do not impose new requirements for current tires, but instead permit a new category of tire. Since the new tires can provide better performance, the amendments will result in consumer benefits.

In accordance with the Regulatory Flexibility Act, NHTSA has evaluated the effects of this action on

small entities. I certify that this final rule will not have a significant economic impact on a substantial number of small entities. The agency believes that few of the tire manufacturers qualify as small businesses. Any tire manufacturers that do qualify as small businesses might benefit to a small extent by being permitted to produce these new tires. Small non-profit organizations and small governmental units are affected by the final rule only to the extent that they purchase motor vehicles. These small entities may benefit to a small extent if they purchase vehicles with these new tires.

The agency has analyzed this action under principles and criteria of Executive Order 12612, and has determined that this final rule does not have sufficient Federalism implications to warrant preparing a Federalism Assessment.

Finally, the agency has considered the environmental implications of this proposed rule in accordance with the National Environmental Policy Act of 1969 and determined that the rule does not have any significant impact on the human environment.

PART 571—[AMENDED]

In consideration of the foregoing, 49 CFR Parts 571 and 575 are amended as follows:

Section 571.109 [Amended]

- S4.2.1(b) is revised to read as follows:
- (b) Its maximum permissible inflation pressure

shall be either 32, 36, 40 or 60 psi, or 240, 280, 300 or 340 kPa.

S4.2.2.2 is revised to read as follows:
S4.2.2.2 *Physical dimensions.* The actual section width and overall width for each tire measured in accordance with S5.1, shall not exceed the section width specified in a submission made by an individual manufacturer, pursuant to S4.4.1(a) or in one of the publications described in S4.4.1(b) for its size designation and type by more than:

- (1) (For tires with a maximum permissible inflation pressure of 32, 36, or 40 psi) 7 percent, or
- (2) (For tires with a maximum permissible inflation pressure of 60 psi or 240, 280, 300, or 340 kPa) 7 percent or 0.4 inch, whichever is larger.

S4.3.4 is revised to read as follows:
S4.3.4 If the maximum inflation pressure of a tire is 240, 280, 300, or 340 kPa, then:

- (a) Each marking of that inflation pressure pursuant to S4.3(b) shall be followed in parenthesis by the equivalent inflation pressure in psi, rounded to the next higher whole number; and
- (b) Each marking of the tire's maximum load rating pursuant to S4.3(c) in kilograms shall be followed in parenthesis by the equivalent load rating in pounds, rounded to the nearest whole number.

Tables I-A, I-B and I-C of Appendix A are revised to read as follows:

Table II of Appendix A is revised to read as follows:

Table 1 of PART 575 is amended to read as follows:

571.109—Appendix A

Table I-A For Bias Ply Tires With Designated Section Width of 6 Inches and Above

Cord Material	Maximum permissible inflation						
	32 lb/in²	36 lb/in²	40 lb/in²	240 kPa	280 kPa	300 kPa	340 kPa
Rayon (in-lbs).....	1,650	2,574	3,300	1,650	3,300	1,650	3,300
Nylon or polyester (in-lbs)...	2,600	3,900	5,200	2,600	5,200	2,600	5,200

571.109—Appendix A

Table I-B For Bias Ply Tires With Designated Section Width Below 6 Inches

Cord Material	Maximum permissible inflation						
	32 lb/in ²	36 lb/in ²	40 lb/in ²	240 kPa	280 kPa	300 kPa	340 kPa
Rayon (in-lbs).....	1,000	1,875	2,500	1,000	2,500	1,000	2,500
Nylon or polyester (in-lbs)...	1,950	2,925	3,900	1,950	3,900	1,950	3,900

571.109—Appendix A

Table I-C For Radial Ply Tires

Size Designation	Maximum permissible inflation						
	32 lb/in ²	36 lb/in ²	40 lb/in ²	240 kPa	280 kPa	300 kPa	340 kPa
Below 160 mm (in-lbs).....	1,950	2,925	3,900	1,950	3,900	1,950	3,900
160 mm or above (in-lbs)....	2,600	3,900	5,200	2,600	5,200	2,600	5,200

571.109—Appendix A

Table II—Test Inflation Pressures

Maximum permissible inflation pressure	32 lb/in ²	36 lb/in ²	40 lb/in ²	60 lb/in ²	240 kPa	280 kPa	300 kPa	340 kPa
Pressure to be used in tests for physical dimensions, bead unseating, tire strength, and tire endurance	24	28	32	52	180	220	180	220
Pressure to be used in test for high-speed performance	30	34	38	59	220	260	220	260

Issued on May 11, 1988

Diane K. Steed
Administrator

53 F.R. 17950
May 19, 1988

**Vehicle Owner's Manual
(Docket No. 88-13; Notice 2)
RIN 2127-AC72**

ACTION: Final Rule.

SUMMARY: This final rule amends the Consumer Information Regulations to require vehicle manufacturers to include information in the owner's manual for each vehicle about NHTSA's toll-free Auto Safety Hotline and its defect investigation and remedy and recall authority. This requirement will allow NHTSA to obtain more information, more expeditiously about potential safety-related defects and noncompliances with safety standards.

EFFECTIVE DATE: September 1, 1990.

SUPPLEMENTARY INFORMATION:

Background

On May 26, 1987, Motor Voters, a consumer organization interested in motor vehicle safety, petitioned the agency to require manufacturers of passenger vehicles to include information about NHTSA in the vehicle owners' manuals. Specifically, the petitioner requested that the agency require information advising owners about NHTSA's safety defect authority and urging them to contact the agency about potential safety defects in their vehicles. To facilitate contacting the agency, the petitioner requested that the agency require manufacturers to include the toll-free telephone number of the Auto Safety Hotline and the agency's address. The petitioner suggested that the message explain that while the agency has authority to investigate defects and order recall and remedy campaigns, it does not become directly involved in the dealings of a particular consumer with a manufacturer of a motor vehicle regarding a defect in that vehicle.

Notice of Proposed Rulemaking

In response to the petition, on November 10, 1988, NHTSA published a notice of proposed rulemaking (NPRM) proposing to amend title 49 CFR Part 575, *Consumer Information Regulations*. (53 FR 45527). The NPRM explained that the National Traffic and Motor Vehicle Safety Act ("Vehicle Safety Act," 15 U.S.C. 1381 *et seq.*) requires manufacturers of motor vehicles and motor vehicle equipment to recall and remedy vehicles and equipment that are determined

by the manufacturer or NHTSA to contain either a safety-related defect or a failure to comply with a Federal motor vehicle safety standard issued under the Vehicle Safety Act. The NPRM further noted that the agency's most important source of data used to identify defects which relate to motor vehicle safety is the consumer complaints made by persons calling the agency's toll-free Auto Safety Hotline. In 1987, the agency received 332,659 calls on the Hotline, of which 75 percent concerned alleged defects or recall information. In addition, over 15,092 of these Hotline callers followed by up completing and returning to NHTSA detailed Vehicle Owner Questionnaires which were mailed by the agency to callers reporting defects and seeking recall information. The NPRM also noted that a longstanding agency goal is to enhance publication of the Auto Safety Hotline and to improve the process of getting information from consumers about potential safety defects. The NPRM explained the agency's plans to publicize the Hotline through public service announcements in the media, through consumer and corporate safety offices, in telephone books, and through programs with State transportation agencies.

NHTSA tentatively concluded that the inclusion of the requested information in each owner's manual would be an important addition to NHTSA's public information campaign to increase consumer awareness of the Hotline and the agency's efforts to strengthen its defect investigation activities. The agency stated its tentative belief that including the Hotline number in owners' manuals would put that number in the hands of millions of motor vehicle purchasers at virtually no additional cost. Moreover, the NPRM noted that since owners typically refer to their manuals periodically throughout the ownership of their vehicles, especially when they are experiencing vehicle problems, the Hotline number printed in the manuals would be seen many times. The agency stated that inclusion of the Hotline number in manuals would be particularly important for new car owners, since it would produce a higher volume of calls about potential safety defects earlier in a vehicle's life. The agency believed that this

would be particularly important to detect defects in newly introduced models.

The NPRM accordingly proposed to amend section 575.6 of the Consumer Information Regulations to require motor vehicle manufacturers to include information about NHTSA's recall and remedy authority and about the Auto Safety Hotline in the owner's manual. The agency proposed requiring that all new motor vehicles, not just "passenger vehicles," be subject to the proposed amendment. The agency explained that facilitating owner reporting of potential safety defects would be important for all types of motor vehicles. The agency also made minor changes in the information requirements requested in the petition.

The proposed amendment required a manufacturer to state in each owner's manual that consumers may contact NHTSA if they believe that their vehicle contains a safety defect. The proposed amendment also required that the manuals include the toll-free Hotline telephone number and agency address. Finally, the proposed amendment required that manufacturers include in the manuals a statement about the agency's authority to order a safety recall if it finds that a safety defect exists in a group of vehicles.

Comments and The Agency's Response

NHTSA received 24 comments in response to the NPRM. Commenters included 15 automotive manufacturers and automotive affiliates; four academic, medical, and insurance groups; and five consumers and consumer organizations. The agency considered all these comments in developing this final rule.

General Comments

American Honda, American Insurance Association (AIA), Cagiva Motorcycle of North America, Children's Mercy Hospital, the National Consumers League (NCL), the University of Maryland's Center for Business and Public Policy, US Public Interest Research Group ("US Pirg"), and several citizens favored the proposal. US Pirg stated that the proposal would be a cost-effective and efficient way to improve consumer awareness of the Hotline. NCL commented that this measure would further the agency's need to receive information about safety defects so that the agency can protect the consumer.

On the other hand, Chrysler, Ford, General Motors (GM), General Tire, Mercedes, Michelin, the Motor Vehicle Manufacturers Association (MVMA), the National Automobile Dealers Association (NADA), Navistar, Volkswagen and Volvo opposed the proposal. NADA stated that there was no need for the rule and suggested NHTSA reevaluate the proposal. MVMA similarly commented that there was no safety need for this requirement. Ford, Michelin,

MVMA, Chrysler, General Tire, GM, and Volkswagen elaborated that the proposal was unnecessary, might adversely affect customer manufacturer relations, delay corrective action, and overburden the agency's resources to respond to calls. Mercedes stated that the proposal would give consumers the false impression that they could receive immediate action related to their problems and that resolution of the problem would be delayed. Volvo commented that the rule would not be in the best interests of the vehicle owners, who would be better served by contacting the manufacturer rather than NHTSA.

Upon considering these comments in light of current trends in consumer awareness, NHTSA concludes that the benefits of increasing the availability of information about consumer remedies support the inclusion of information about the agency in the owner's manuals. Calls to the Hotline decreased from about 332,000 in 1987 to 252,000 in 1988, a reduction of about 24 percent. In turn, receipt of Vehicle Owner's Questionnaires decreased from about 15,000 in 1987 to about 12,000 in 1988. The agency believes that this new information will increase consumer awareness about the Hotline and the agency's defect investigation activities, especially for newly introduced models, and thus will improve the agency's information about potential safety defects and noncompliances. The agency is accordingly adopting the proposals. The increased dissemination of information about NHTSA will enable the agency to identify, investigate, and resolve potential problems more rapidly, because the agency will have a more extensive and more timely data base for analyzing owners' experiences with a given problem.

Chrysler, MVMA, and Volkswagen disagreed with the statement in the NPRM that the Hotline was the agency's most important source of data used to identify safety-related defects. Although the commenters are correct in noting that many recalls are initiated by manufacturers based on their own tests and field evaluations, the statement referred to NHTSA's own investigations, which continue to influence a high percentage of the total vehicles recalled and which rely heavily on consumer contacts through the Hotline.

Message's Language

The NPRM proposed to require the following message in the owner's manual:

If you believe that a vehicle or item of motor vehicle equipment (such as tires, lamps, etc.) has a potential safety-related defect, you may notify the National Highway Traffic Safety Administration (NHTSA). You may either call toll free at 800-424-9393 (or 366-0123 in Washington, D.C.) or write Administrator, NHTSA, 400

Seventh Street, S.W., Washington D.C. 20590. NHTSA investigates alleged safety-related defects and may order a recall and remedy campaign if it finds that a safety defect exists in a group of vehicles and the manufacturer does not voluntarily conduct a recall and remedy campaign. However, NHTSA does not become directly involved in the dealings between a particular consumer and a vehicle manufacturer regarding a defect in the consumer's vehicle.

Mercedes and other manufacturers commented that this proposed language would hinder their relationship with their customers by delaying the correction of vehicle problems and by providing the unrealistic expectation that NHTSA can remedy the problem. According to these commenters, a consumer should contact the manufacturer before contacting the agency because the manufacturer is in a better position to actually remedy a safety related defect.

In response to this comment, NHTSA iterates that requiring this message will help to publicize the Auto Safety Hotline and NHTSA's related activities. The agency believes that NHTSA might lose valuable information from owners if the message did not initially focus on the agency's information collection responsibilities. For instance, in order for NHTSA to react quickly to reports of a defect trend, it is necessary for the agency to receive the information as soon as possible. The agency believes that this invitation for early consumer communication to NHTSA will also encourage manufacturers to act quickly to address consumer concerns. The agency further notes that even if NHTSA is contacted first, a manufacturer still will become aware of a problem because the agency will notify them about these complaints.

NHTSA nevertheless agrees with the commenters that the public should be instructed to also contact the manufacturer. Therefore, the agency has revised the message to state that a consumer should also contact the manufacturer or its designate (e.g., its authorized dealer) to resolve safety-related or other problems with the vehicle. In addition, the final rule explains NHTSA's authority and limitations more clearly. NHTSA believes that these modifications will increase the effectiveness of the message.

The agency emphasizes that NHTSA's message is mandatory, and thus a manufacturer cannot modify or otherwise vary it. Nevertheless, the agency notes that a manufacturer may place additional language elsewhere in the owner's manual encouraging a vehicle owner to contact them, provided that this additional information is not included in the message required by NHTSA and does not otherwise dilute the content of the required message.

GM suggested that the message be written in a

"plain English" style. After reexamining the proposal's wording, NHTSA agrees with GM that to increase the final rule's effectiveness, the message should be written in an easily understood style. Accordingly, the final rule adopts more simplified wording whenever such wording does not misstate the legalities or realities of NHTSA's defect investigation and recall and remedy program.

Volkswagen commented that listing examples of equipment would result in consumers overreporting those items of equipment. In response to this comment, NHTSA has decided to eliminate these examples in the required message. The agency agrees with Volkswagen that including examples might bias the reporting and thus provide an inaccurate record of overall complaints about equipment. Accordingly, the final rule deletes reference to "tires, lamps, etc."

Several commenters noted that the proposed message should include more information than the NPRM proposed. The American Insurance Association (AIA) and Gillis and Associates stated that the final rule should contain information about other NHTSA activities such as drunk driving and odometer fraud. The NCL commented that NHTSA should expand the message to inform consumers that they should contact other consumer organizations such as the Better Business Bureau. NADA suggested that the required message should state that consumers should initially refer to the warranty booklet's section concerning dispute resolution and then contact the manufacturer.

After reviewing these comments, NHTSA has decided to include a general statement that a consumer can "get other information about motor vehicle safety from the Hotline." Nevertheless, the agency believes that the final rule should not include detailed information about NHTSA's other consumer protection matters. The agency notes that the principal purpose of this rule is to disseminate information about the Auto Safety Hotline and NHTSA's defect investigation authority which will lead to the increased reporting of potential safety defects and noncompliances with safety standards. The agency further notes that the rule is not intended as an all-encompassing source of consumer information. NHTSA believes that if the message were required to address all the agency's activities and consumer protection, then the most important information about this rulemaking (the Hotline and NHTSA's defect investigation authority) would be obscured.

The agency notes that upon contacting the Auto Safety Hotline, the caller will receive information about NHTSA's other activities. As for consumer protection information (e.g., warranty information), NHTSA notes

that this type of activity is beyond the agency's statutory mandate.

Applicability of Requirement

Motor Voter's petition requested that NHTSA require "passenger vehicle manufacturers" to include information about the Hotline and the agency's defect investigation authority. The NPRM expanded the applicability of this requirement to "all new motor vehicles," reasoning that "facilitating owner reporting of potential safety defects is important for all types of motor vehicles."

US Pirg agreed with NHTSA's decision to expand the requirement's applicability to all motor vehicles. The Truck Trailer Manufacturers Association (TTMA) commented that the rule would create problems for small truck trailer manufacturers, some of which currently do not provide an owner's manual.

After reviewing these comments, NHTSA concludes that the final rule should be applicable to all motor vehicles, because any vehicle type may experience a safety-related defect. However, to accommodate a manufacturer that does not provide an "owner's manual," as defined in section 572.2(c) of the final rule, the rule provides that the manufacturer may provide the information in a separate one-page document to be included with the sales documents. In other words, a manufacturer must include the required information in the owner's manual if it provides one, or in a separate document if it provides no manual.

Placement of Information

The NADA suggested that a manufacturer be given the option of including the required information in the warranty booklet rather than in the owner's manual, claiming that consumers would more likely look in the warranty booklet for assistance with defect matters. GM stated that the manufacturer was in the best position to determine placement of the required information, suggesting that this information be placed in its "Warranty and Owner Assistance Information" booklet. GM stated that a manufacturer should not be required to place this information in the owner's manual.

After reviewing these comments, NHTSA has determined that the manufacturer must include this information in the owner's manual. The agency believes that requiring the information to be placed in the owner's manual will promote uniformity among manufacturers. In addition, NHTSA notes that placing the information in the warranty book would be less effective because the warranty lasts for a finite time (often much less than the life of the vehicle), after which a vehicle owner would have little reason to retain the book. In contrast, many manufacturers state in the owner's manual that this

document should stay with the vehicle for its life, even if it is sold. Thus, it is more likely that a vehicle's owner or owners will retain the owner's manual for a longer time period than the warranty booklet. The agency notes that a manufacturer may place this information in any additional document provided that it includes this information in the owner's manual.

The agency is aware that manufacturers refer to such documents by many terms, including "Owner's Guide," "Owner's Handbook," or "Operating Instructions." Accordingly, the final rule expressly defines an "owner's manual" in section 575.2(c) as "the document which contains the manufacturer's comprehensive vehicle operating [and maintenance] instructions, and which is intended to remain with the vehicle for the life of the vehicle."

Several organizations commented about the placement of this information within the owner's manual. Volvo Truck stated that a manufacturer should have discretion about where it places the information. Volkswagen stated that this information be placed near the information on customer assistance. Gillis and the Center for Business and Policy did not suggest a specific location in the manual but noted that the agency should require that a manufacturer refer to it in the table of contents. US Pirg suggested that the agency require the information to be placed in a prominent location such as the front or back cover to prevent a manufacturer from "bury(ing)" it. NCL stated that the agency should specify the location to reduce reporting discrepancies. It suggested in order of preference that the information be placed opposite the first page of the table of contents, on the inside front cover, in the text preceding the maintenance schedule, or on the inside back cover.

After reviewing these comments, NHTSA agrees with Volvo Truck that a manufacturer should be given discretion about where it places the information. The agency believes that requiring the table of contents to include reference to the Hotline will adequately ensure that vehicle owner's will see this information. Accordingly, section 575.6(a)(2)(B) of the final rule also requires that the table of contents in the owner's manual specify the location of the information about NHTSA. In particular, the heading must be entitled "Reporting Safety Defects" and include the corresponding page number to effectively alert consumers and to provide uniformity as to the heading.

Two commenters offered their views on the type size. Volvo GM Heavy Truck requested that the type size be left to the manufacturer's discretion. NCL commented that the rule should specify a minimum point size for the type. It further stated that NHTSA should specify a minimum amount of space not less than one-half page for this information.

NHTSA has concluded that to be easily readable the required message must be written in letters and

numbers not smaller than 10 point type, and has incorporated that requirement in the final rule. The agency notes that the point type size is consistent with the labeling requirements in S5.5.2 of Standard No. 213. The agency concludes that it is superfluous to specify a minimum page length because the final rule specifies the type size and the message itself.

Effective Date

The NPRM proposed that the rule would become effective “180 days after the publication of the final rule.” Several manufacturers requested that the effective date coincide with the start of the model year to avoid unnecessary costs that would result in reprinting manuals during the middle of a model year. American Honda suggested that the effective date coincide with the change in model year. Volvo GM Heavy Truck requested that the effective date be changed to “January 1, or at the option of the manufacturer, the time of model year change-over.” Cagiva, which changes its motorcycle models every two to four years, requested an effective date that would “allow us adequate lead time to incorporate the regulatory language” at the start of its model run. Chrysler recommended an effective date of the “first day of September occurring 180 days after publication of the final rule.” Navistar requested an effective date of 270 days after the final rule’s publication. US Pirg noted that the agency should “act promptly.”

After reviewing these comments, NHTSA determines that the effective date will be September 1, 1990, which typically is the beginning of a model year for most vehicles. The agency believes that this effective date will allow the timely inclusion of this information at little or no cost to the manufacturers.

Cagiva requested that the final rule allow it to exhaust its supply of already printed manuals, explaining that its model runs may extend up to four years. A manufacturer whose models run for more than one year may comply with the final rule by placing an add-on-sticker on its existing manuals, until this supply is exhausted. The agency believes that this will ensure that consumers receive the information while minimizing the costs related to this rule for manufacturers like Cagiva.

Section 575.2(c) is amended by adding the following definition of “Owner’s manual” after the definition for “Maximum loaded vehicle weight” and before the definition for “Skid number”:

(c) Definitions used in this part.

* * * * *

“Owner’s manual” means the document which contains the manufacturer’s comprehensive vehicle

operating and maintenance instructions, and which is intended to remain with the vehicle for the life of the vehicle.

* * * * *

Section 575.6(a) is revised by redesignating the existing language as Section 575.6(a)(1), and adding a new Section 575.6(a)(2), to read as follows:

§575.6 Requirements.

(a)(1) * * *

(2)(A) At the time a motor vehicle manufactured on or after September 1, 1990 is delivered to the first purchaser for purposes other than resale, the manufacturer shall provide to the purchaser, in writing in the English language and not less than 10 point type, the following statement in the owner’s manual, or, if there is no owner’s manual, on a one-page document:

“If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying [INSERT NAME OF MANUFACTURER].

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or [INSERT NAME OF MANUFACTURER.]

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in the Washington D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.”

(2)(B) The manufacturer shall specify in the table of contents of the owner’s manual the location of the statement in 575.6(a)(2)(A). The heading in the table of contents shall state “Reporting Safety Defects.”

* * * * *

Issued on: November 21, 1989

Jeffrey R. Miller
Acting Administrator

54 F.R. 48745
November 27, 1989



PART 575—CONSUMER INFORMATION

SUBPART A—GENERAL

§ 575.1 Scope.

This part contains Federal Motor Vehicle Consumer Information Regulations established under section 112(d) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1401(d)) (hereinafter “the Act”).

§ 575.2 Definitions.

(a) *Statutory definitions.* All terms used in this part that are defined in section 102 of the Act are used as defined in the Act.

(b) *Motor Vehicle Safety Standard definitions.* Unless otherwise indicated, all terms used in this part that are defined in the Motor Vehicle Safety Standards, Part 571 of this subchapter (hereinafter “The Standards”) are used as defined in the Standards without regard to the applicability of a standard in which a definition is contained.

(c) *Definitions used in this part.*

“Brake power unit” means a device installed in a brake system that provides the energy required to actuate the brakes, either directly or indirectly through an auxiliary device, with the operator action consisting only of modulating the energy application level.

“Lightly loaded vehicle weight” means—

(1) For a passenger car, unloaded vehicle weight plus 300 pounds (including driver and instrumentation), with the added weight distributed in the front seat area.

(2) For a motorcycle, unloaded vehicle weight plus 200 pounds (including driver and instrumentation), with added weight distributed on the saddle and in saddle bags or other carrier.

“Maximum loaded vehicle weight” is used as defined in Standard No. 110.

“Maximum sustained vehicle speed” means that speed attainable by accelerating at maximum rate from a standing start for 1 mile.

[“Owner’s manual” means the document which contains the manufacturer’s comprehensive vehicle operating and maintenance instructions, and which is intended to remain with the vehicle for the life of the vehicle. 54 F.R. 48745—November 27, 1989. Effective: September 1, 1990.)]

“Skid number” means the frictional resistance measured in accordance with American Society for Testing and Materials Method E-274 at 40 miles per hour, omitting water delivery as specified in paragraph 7.1 of that Method.

§ 575.3 Matter incorporated by reference.

The incorporation by reference provisions of § 571.5 of this subchapter applies to this part.

§ 575.4 Application.

(a) *General.* Except as provided in paragraphs (b) through (d) of this section, each section set forth in Subpart B of this part applies according to its terms to motor vehicles and tires manufactured after the effective date indicated.

(b) *Military vehicles.* This part does not apply to motor vehicles or tires sold directly to the Armed Forces of the United States in conformity with contractual specifications.

(c) *Export.* This part does not apply to motor vehicles or tires intended solely for export and so labeled or tagged.

(d) *Import.* This part does not apply to motor vehicles or tires imported for purposes other than resale.

§ 575.5 Separability.

If any section established in this part or its application to any person or circumstances is held invalid, the remainder of the part and the application of that section to other persons or circumstances is not affected thereby.

§ 575.6 Requirements.

(a)(1) At the time a motor vehicle is delivered to the first purchaser for purposes other than resale, the manufacturer of that vehicle shall provide to that purchaser, in writing and in the English language, the information specified in §§ 575.103 and 575.104 of this part that is applicable to that vehicle and its tires. The document provided with a vehicle may contain more than one table, but the document must either (1) clearly and unconditionally indicate which of the tables apply to the vehicle with which it is provided, or (2) contain a statement on its cover referring the reader to the vehicle certification label for specific information concerning which of the tables apply to that vehicle. If the manufacturer chooses option (2), the vehicle certification label shall include such specific information.

Example 1: Manufacturer X furnishes a document containing several tables, which apply to various groups of vehicles that it produces. The document contains the following notation on its front page: "The information that applies to this vehicle is contained in Table 5." The notation satisfies the requirement.

Example 2: Manufacturer Y furnishes a document containing several tables as in Example 1, with the following notation on its front page:
Information applies as follows:
Model P. 6-cylinder engine—Table 1.
Model P. 8-cylinder engine—Table 2.
Model Q—Table 3.

This notation does not satisfy the requirement, since it is conditioned on the model or the equipment of the vehicle with which the document is furnished, and therefore additional information is required to select the proper table.

(b) At the time a motor vehicle tire is delivered to the first purchaser for a purpose other than resale, the manufacturer of that tire, or in the case of a tire marketed under a brand name, the brand name owner, shall provide to that purchaser the information specified in Subpart B of this part that is applicable to that tire.

(c) Each manufacturer of motor vehicles, each brand name owner of tires, and each manufacturer of tires for which there is no brand name owner shall provide for examination by prospective purchasers, at each location where its vehicles or tires are offered for sale by a person with whom the manufacturer or brand name owner has a contractual, proprietary, or other legal relationship, or by a person who has such a relationship with a distributor of the manufacturer or brand name owner concerning the vehicle or tire in question, the information specified in Subpart B of this part that is applicable to each of the vehicles or tires offered for sale at that location. The information shall be provided without charge and in sufficient quantity to be available for retention by prospective purchasers or sent by mail to a prospective purchaser upon his request. With respect to newly introduced vehicles or tires, the information shall be provided for examination by prospective purchasers not later than the day on which the

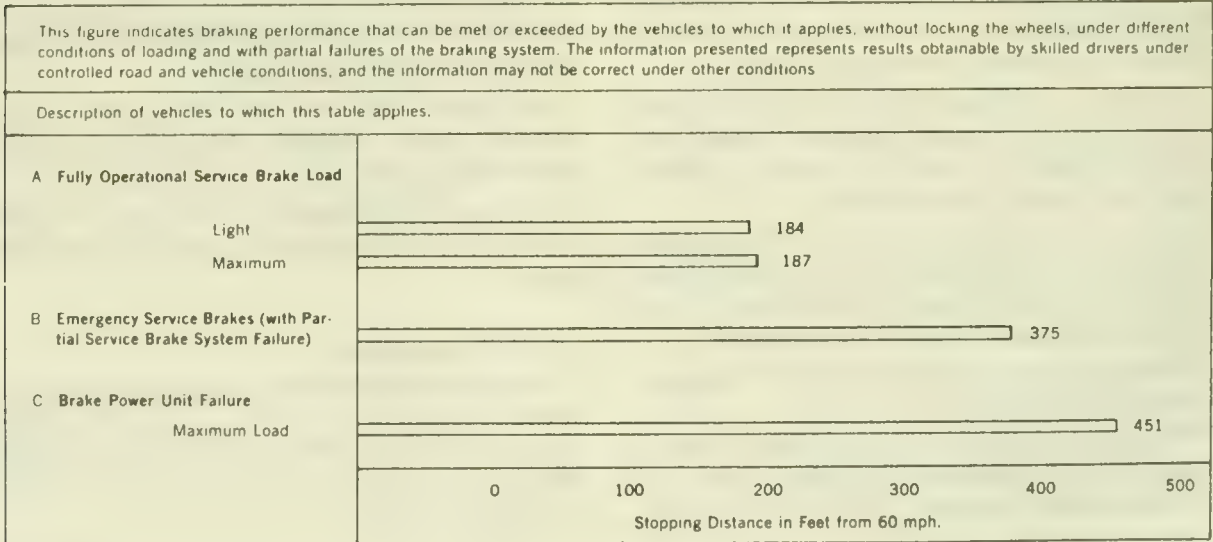


FIGURE 1

manufacturer or brand name owner first authorizes those vehicles or tires to be put on general public display and sold to consumers.

(d) (1) (i) Except as provided in paragraph (d) (1) (ii) of this section in the case of all sections of Subpart B, other than § 575.104, as they apply to information submitted prior to new model introduction, each manufacturer of motor vehicles shall submit to the Administrator 10 copies of the information specified in Subpart B of this part that is applicable to the vehicles offered for sale, at least 90 days before it is first provided for examination by prospective purchasers pursuant to paragraph (c) of this section. (2) In the case of § 575.104, and all other sections of Subpart B as they apply to post-introduction changes in information submitted for the current model year, each manufacturer of motor vehicles, each brand name owner of tires, and each manufacturer of tires for which there is no brand name owner shall submit to the Administrator 10 copies of the information specified in Subpart B of this part that is applicable to the vehicles or tires offered for sale, at least 30 days before that information is first provided for examination by prospective purchasers pursuant to paragraph (c) of this section.

(ii) Where an unforeseen pre-introduction modification in vehicle design or equipment results in a change in vehicle performance for a characteristic included in Subpart B of this part, a manufacturer of motor vehicles may revise information previously furnished under (d) (1) (i) of this section by submission to the Administrator of 10 copies of revised information reflecting the performance changes, at least 30 days before information on the subject vehicles is first provided to prospective purchasers pursuant to paragraph (c) of this section.

(2) In the case of § 575.104, and all other sections of Subpart B as they apply to post-introduction changes in information submitted for the current model year, each manufacturer of motor vehicles, each brand name owner of tires, and each manufacturer of tires for which there is no brand name owner shall submit to the Administrator 10 copies of the information specified in Subpart B of this part that is applicable to the vehicles or tires offered for sale, at least 30 days before it is first provided for examination by prospective purchasers pursuant to paragraph (c) of this session.

[(2)(A) At the time a motor vehicle manufactured on or after September 1, 1990 is delivered to the first purchaser for purposes other than resale, the manufacturer shall provide to the purchaser, in writing in the English language and not less than 10 point type, the following statement in the owner's manual, or, if there is no owner's manual, on a one-page document:

"If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying [INSERT NAME OF MANUFACTURER].

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or [INSERT NAME OF MANUFACTURER.]

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in the Washington D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

(2)(B) The manufacturer shall specify in the table of contents of the owner's manual the location of the statement in 575.6(a)(2)(A). The heading in the table of contents shall state "Reporting Safety Defects." 54 F.R. 48745—November 27, 1989. Effective: September 1, 1990)]

§ 575.7 Special vehicles.

A manufacturer who produces vehicles having a configuration not available for purchase by the general public need not make available to ineligible purchasers, pursuant to § 575.6(c), the information for those vehicles specified in Subpart B of this part, and shall identify those vehicles when furnishing the information required by § 575.6(d).

SUBPART B—CONSUMER INFORMATION ITEMS

§ 575.101 Vehicle stopping distance.

(a) *Purpose and scope.* This section requires manufacturers of passenger cars and motorcycles to provide information on vehicle stopping distances

under specified speed, brake, loading and pavement conditions.

(b) *Application.* This section applies to passenger cars and motorcycles manufactured on or after January 1, 1970.

(c) *Required information.* Each manufacturer shall furnish the information in (1) through (5) below, in the form illustrated in Figure 1, except that with respect to (2) and (3) below, a manufacturer whose total motor vehicle production does not exceed 500 annually is only required to furnish performance information for the loaded condition. Each motorcycle in the group to which the information applies shall be capable, under the conditions specified in paragraph (d), and utilizing the procedures specified in paragraph (e), of performing at least as well as the information indicates. Each passenger car in the group to which the information applies shall be capable of performing at least as well as the information indicates, under the test conditions and procedures specified in S6 and S7 of Standard No. 105-75 of this chapter (49 CFR 571.105-75) or, in the case of passenger cars manufactured before January 1, 1977, and at the option of the manufacturer, under the conditions specified in paragraph (d) of this section and the procedures specified in Paragraph (e) of this section.

If a vehicle is unable to reach the speed of 60 miles per hour (mph), the maximum sustained vehicle speed shall be substituted for the 60 mph speed in the requirements specified below, and in the presentation of information as in Figure 1, with an asterisked notation in essentially the following form at the bottom of the figure: "The maximum speed attainable by accelerating at maximum rate from a standing start for 1 mile." The weight requirements indicated in paragraphs (c)(2), (3), and (4) of this section are modified for the motorcycles (and at the option of the manufacturer, in the case of passenger cars manufactured before January 1, 1977) by the fuel tank condition specified in paragraph (d) (4) of this section.

(1) *Vehicle description.* The group of vehicles to which the table applies, identified in the terms by which they are described to the public by the manufacturer.

(2) *Minimum stopping distance with fully operational service brake system.* The minimum stopping distance attainable, expressed in feet,

from 60 mph, using the fully operational service brake system—

(i) In the case of a motorcycle, at lightly loaded and maximum loaded vehicle weight; and

(ii) In the case of a passenger car, at lightly loaded vehicle weight and at gross vehicle weight rating (GVWR), except for a passenger car manufactured before January 1, 1977, and tested, at the option of the manufacturer, under the conditions and procedures of paragraphs (d) and (e) of this section, which passenger car shall be tested at lightly loaded vehicle weight and at maximum loaded vehicle weight.

(3) *Minimum stopping distance with partially failed service brake system.* (Applicable only to passenger cars with more than one service brake subsystem.) The minimum stopping distance attainable using the service brake control, expressed in feet, from 60 mph, for the most adverse combination of GVWR or lightly loaded vehicle weight and partial failure as specified in S5.1.2 of Standard No. 105-75 of this chapter. However, a passenger car manufactured before January 1, 1977, and tested, at the option of the manufacturer, under the conditions and procedures of paragraphs (d) and (e) of this section, shall be tested at maximum loaded vehicle weight instead of GVWR.

(4) *Minimum stopping distance with inoperative brake power assist unit or brake power unit.* (Applicable only to passenger cars equipped with brake power assist unit or brake power unit.) The minimum stopping distance, expressed in feet, from 60 mph, using the service brake system, tested in accordance with the requirements of S5.1.3 of Standard No. 105-75 of this chapter. However, in the case of a passenger car manufactured before January 1, 1977, vehicle loading may, at the option of the manufacturer, be maximum loaded vehicle weight in place of the GVWR loading specified under S5.1.3 of Standard No. 105-75.

(5) *Notice.* The following notice: "This figure indicates braking performance that can be met or exceeded by the vehicles to which it applies, without locking the wheels, under different conditions of loading and with partial failures of the braking system. The information presented

represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.”

(d) *Conditions.* The data provided in the format of Figure 1 shall represent a level of performance that can be equalled or exceeded by each vehicle in the group to which the table applies, under the following conditions, utilizing the procedures set forth in (e) below:

(1) Stops are made without lock-up of any wheel, except for momentary lock-up caused by an automatic skid control device.

(2) The tire inflation pressure and other relevant component adjustments of the vehicle are made according to the manufacturer’s published recommendations.

(3) For passenger cars, brake pedal force does not exceed 150 pounds for any brake application. For motorcycles, hand brake lever force applied 1¼ inches from the outer end of the lever does not exceed 55 pounds, and foot brake pedal force does not exceed 90 pounds.

(4) Fuel tank is filled to any level between 90 and 100 percent of capacity.

(5) Transmission is in neutral, or the clutch disengaged, during the entire deceleration.

(6) The vehicle begins the deceleration in the center of a straight roadway lane that is 12 feet wide, and remains in the lane throughout the deceleration.

(7) The roadway lane has a grade of zero percent, and the road surface has a skid number of 81, as measured in accordance with American Society for Testing and Materials (ASTM) Method E-274-70 (as revised July, 1974) at 40 mph, omitting the water delivery specified in paragraphs 7.1 and 7.2 of that Method.

(8) All vehicle openings (doors, windows, hood, trunk, convertible tops, etc.) are in the closed position except as required for instrumentation purposes.

(9) Ambient temperature is between 32°F and 100°F.

(10) Wind velocity is zero.

(e) *Procedures.*

(1) Burnish.

(i) Passenger cars. Burnish brakes once prior to first stopping distance test by conduct-

ing 200 stops from 40 mph (or maximum sustained vehicle speed if the vehicle is incapable of reaching 40 mph) at a deceleration rate of 12 fpsps in normal driving gear, with a cooling interval between stops, accomplished by driving at 40 mph for a sufficient distance to reduce brake temperature to 250°F, or for one mile, whichever occurs first. Readjust brakes according to manufacturer’s recommendations after burnishing.

(ii) Motorcycles. Adjust and burnish brakes in accordance with manufacturer’s recommendations. Where no burnishing procedures have been recommended by the manufacturer, follow the procedures specified above for passenger cars, except substitute 30 mph for 40 mph and 150° F for 250°F, and maintain hand lever force to foot lever force ratio of approximately 1 to 2.

(2) Ensure that the temperature of the hot-test service brake is between 130°F and 150°F prior to the start of all stops (other than burnishing stops), as measured by plug-type thermocouples installed according to SAE Recommended Practice J843a, June 1966.

(3) Measure the stopping distance as specified in (c) (2), (3), and (4), from the point of application of force to the brake control to the point at which the vehicle reaches a full stop.

§ 575.102 [Reserved].

§ 575.103 Truck-camper loading.

(a) *Scope.* This section requires manufacturers of trucks that are capable of accommodating slide-in campers to provide information on the cargo weight rating and the longitudinal limits within which the center of gravity for the cargo weight rating should be located.

(b) *Purpose.* The purpose of this section is to provide information that can be used to reduce overloading and improper load distribution in truck-camper combinations, in order to prevent accidents resulting from the adverse effects of these conditions on vehicle steering and braking.

(c) *Application.* This section applies to trucks that are capable of accommodating slide-in campers.

(d) *Definitions.* “Camper” means a structure designed to be mounted in the cargo area of a

truck, or attached to an incomplete vehicle with motive power, for the purpose of providing shelter for persons.

“Cargo weight rating” means the value specified by the manufacturer as the cargo-carrying capacity, in pounds, of a vehicle, exclusive of the weight of occupants, computed as 150 pounds times the number of designated seating positions.

“Slide-in camper” means a camper having a roof, floor and sides, designed to be mounted on and removable from the cargo area of a truck by the user.

(e) *Requirements.* Except as provided in paragraph (f) of this section each manufacturer of a truck that is capable of accommodating a slide-in camper shall furnish the information specified in (1) through (5) below:

(1) A picture showing the manufacturer’s recommended longitudinal center of gravity zone for the cargo weight rating in the form illustrated in Figure 1. The boundaries of the zone shall be such that when a slide-in camper equal in weight to the truck’s cargo weight rating is installed, no gross axle weight rating of the truck is exceeded. Until October 1, 1973 the phrase “Aft End of Cargo Area” may be used in Figure 1 instead of “Rear End of Truck Bed”.

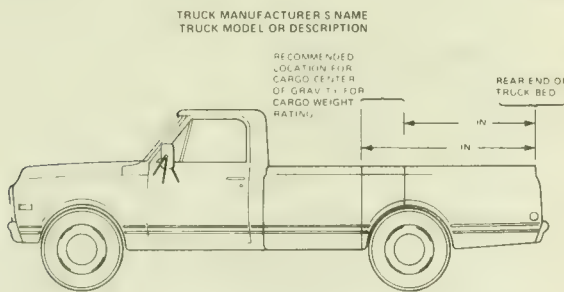


FIGURE 1 TRUCK LOADING INFORMATION

(2) The truck’s cargo weight rating.

(3) The statements: “When the truck is used to carry a slide-in camper, the total cargo load of the truck consists of the manufacturer’s camper weight figure, the weight of installed additional camper equipment not included in the manufacturer’s camper weight figure, the weight of camper cargo, and the weight of passengers in the camper. The total cargo load should not ex-

ceed the truck’s cargo weight rating and the camper’s center of gravity should fall within the truck’s recommended center of gravity zone when installed.” Until October 1, 1973 the phrase “total load” may be used instead of “total cargo load”.

(4) A picture showing the proper match of a truck and slide-in camper in the form illustrated in Figure 2.

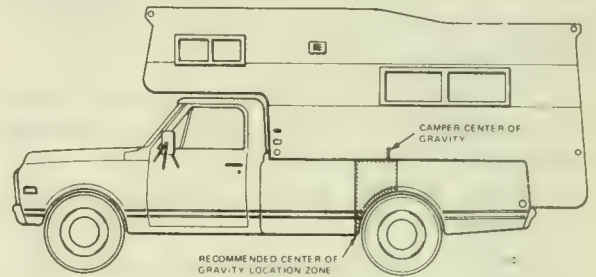


FIGURE 2 EXAMPLE OF PROPER TRUCK AND CAMPER MATCH

(5) The statements: “Secure loose items to prevent weight shifts that could affect the balance of your vehicle. When the truck camper is loaded, drive to a scale and weigh on the front and on the rear wheels separately to determine axle loads. Individual axle loads should not exceed either of the gross axle weight ratings (GAWR). The total of the axle loads should not exceed the gross vehicle weight rating (GVWR). These ratings are given on the vehicle certification label that is located on the left side of the vehicle, normally the dash, hinge pillar, door latch post, or door edge next to the driver. If weight ratings are exceeded, move or remove items to bring all weights below the ratings.”

(f) If a truck would accommodate a slide-in camper but the manufacturer of the truck recommends that the truck not be used for that purpose, the information specified in paragraph (e) shall not be provided but instead the manufacturer shall provide a statement that the truck should not be used to carry a slide-in camper.

§ 575.104 Uniform Tire Quality Grading Standards.

(a) *Scope.* This section requires motor vehicle and tire manufacturers and tire brand name owners to provide information indicating the relative performance of passenger car tires in the areas of treadwear, traction, and temperature resistance.

(b) *Purpose.* The purpose of this section is to aid the consumer in making an informed choice in the purchase of passenger car tires.

(c) *Application.* (1) This section applies to new pneumatic tires for use on passenger cars. However, this section does not apply to deep tread, winter-type snow tires, space-saver or temporary use spare tires, tires with nominal rim diameters of 10 to 12 inches, or to limited production tires as defined in paragraph (c)(2) of this section.

(2) "Limited production tire" means a tire meeting all of the following criteria, as applicable:

(i) The annual domestic production or importation into the United States by the tire's manufacturer of tires of the same design and size as the tire does not exceed 15,000 tires;

(ii) In the case of a tire marketed under a brand name, the annual domestic purchase or importation into the United States by a brand name owner of tires of the same design and size as the tire does not exceed 15,000 tires;

(iii) The tire's size was not listed as a vehicle manufacturer's recommended tire size designation for a new motor vehicle produced in or imported into the United States in quantities greater than 10,000 during the calendar year preceeding the year of the tire's manufacturer; and

(iv) The total annual domestic production or importation into the United States by the tire's manufacturer, and in the case of a tire manufacturer, and in case of a tire marketed under a brand name, the total annual domestic purchase or purchase for importation into the United States by the tire's brand name owner, of tires meeting the criteria of paragraphs (c)(2) (i), (ii), and (iii) of this section, does not exceed 35,000 tires.

Tire design is the combination of general structural characteristics, materials, and tread pattern, but does include cosmetic, identifying or other minor variations among tires.

(d) *Requirements.*

(1) *Information.*

(i) Each manufacturer of tires, or in the case of tires marketed under a brand name, each brand name owner, shall provide grading information for each tire of which he is the manufacturer or brand name owner in the manner set forth in paragraphs (d) (1) (i) (A) and (d) (1) (i) (B) of this section. The grades for each tire shall be only those specified in paragraph (d) (2) of this section. Each tire shall be able to achieve the level of performance represented by each grade with which it is

labeled. An individual tire need not, however, meet further requirements after having been subjected to the test for any one grade.

(A) Except for a tire line, manufactured within the first six months of production of the tire line, each tire shall be graded with the words, letters, symbols, and figures specified in paragraph (d) (2) of this section, permanently molded into or onto the tire sidewall between the tire's maximum section width and shoulder in accordance with one of the methods in Figure 1.

(B) (1) Each tire manufactured before October 1, 1980, other than a tire sold as original equipment on a new vehicle, shall have affixed to its tread surface in a manner such that it is not easily removable a label containing its grades and other information in the form illustrated in Figure 2, Part II, bearing the heading "DOT QUALITY GRADES." The treadwear grade attributed to the tire shall be either imprinted or indelibly stamped on the label adjacent to the description of the treadwear grade. The label shall also depict all possible grades for traction and temperature resistance. The traction and temperature resistance performance grades attributed to the tire shall be indelibly circled. However, each tire labeled in conformity with the requirements of paragraph (d)(1)(i)(B)(2) of this section need not comply with the provisions of this paragraph.

(2) Each tire manufactured on or after October 1, 1980, other than a tire sold as original equipment on a new vehicle, shall have affixed to its tread surface so as not to be easily removable a label or labels containing its grades and other information in the form illustrated in Figure 2, Parts I and II. The treadwear grade attributed to the tire shall be either imprinted or indelibly stamped on the label containing the material in Part I of Figure 2, directly to the right of or below the word "TREADWEAR". The traction and temperature resistance performance grades attributed to the tire shall be indelibly circled in an array of the potential grade letters (ABC) directly to the right of or below the words "TRACTION" and "TEMPERATURE" in Part I of Figure 2. The words "TREADWEAR," "TRACTION," and "TEMPERATURE," in that order, may be laid out

vertically or horizontally. The text part of Part II of Figure 2 may be printed in capital letters. The text of Part I and the text of Part II of Figure 2 need not appear on the same label, but the edges of the two texts must be positioned on the tire tread so as to be separated by a distance of no more than one inch. If the text of Part I and the text of Part II are placed on separate labels, the notation "See EXPLANATION OF DOT QUALITY GRADES" shall be added to the bottom of the Part I text, and the words "EXPLANATION OF DOT QUALITY GRADES" shall appear at the top of the Part II text. The text of Figure 2 shall be oriented on the tire tread surface with lines of type running perpendicular to the tread circumference. If a label bearing a tire size designation is attached to the tire tread surface and the tire size designation is oriented with lines of type running perpendicular to the tread circumference, the text of Figure 2 shall read in the same direction as the tire size designation.

(ii) In the case of information required in accordance with § 575.6(c) to be furnished to prospective purchasers of motor vehicles and tires, each vehicle manufacturer and each tire manufacturer or brand name owner shall as part of that information list all possible grades for traction and temperature resistance, and restate verbatim the explanations for each performance area specified in Figure 2. The information need not be in the same format as in Figure 2. In the case of a tire manufacturer or brand name owner, the information must indicate clearly and unambiguously the grade in each performance area for each tire of that manufacturer or brand name owner offered for sale at the particular location.

(iii) In the case of information required in accordance with § 575.6(a) to be furnished to the first purchaser of a new motor vehicle, other than a motor vehicle equipped with bias-ply tires manufactured prior to October 1, 1979, and April 1, 1980, and a radial-ply tire manufactured prior to October 1, 1980, each manufacturer of motor vehicles shall as part of the information list all possible grades for traction and temperature resistance and restate verbatim the explanation for each performance area specified in Figure 2. The informa-

tion need not be in the format of Figure 2, but it must contain a statement referring the reader to the tire sidewall for the specific tire grades for the tires with which the vehicle is equipped.

(2) *Performance.*

(i) *Treadwear.* Each tire shall be graded for treadwear performance with the word "TREADWEAR" followed by a number of two of three digits representing the tire's grade for treadwear, expressed as a percentage of the NHTSA nominal treadwear value, when tested in accordance with the conditions and procedures specified in paragraph (e) of this section. Treadwear grades shall be multiples of 10 (e.g., 80, 150).

(ii) *Traction.* Each tire shall be graded for traction performance with the word "TRACTION," followed by the symbols C, B, or A (either asterisks or 5-pointed stars) when the tire is tested in accordance with the conditions and procedures specified in paragraph (f) of this section.

(A) The tire shall be graded C when the adjusted traction coefficient is either:

(1) 0.38 or less when tested in accordance with paragraph (f) (2) of this section on the asphalt surface specified in paragraph (f) (1) (i) of this section, or

(2) 0.26 or less when tested in accordance with paragraph (f) (2) of this section on the concrete surface specified in paragraph (f) (1) (i) of this section.

(B) The tire may be graded B only when its adjusted traction coefficient is both:

(1) More than 0.38 when tested in accordance with paragraph (f) (2) of this section on the asphalt surface specified in paragraph (f) (1) (i) of this section, and

(2) More than 0.26 when tested in accordance with paragraph (f) (2) of this section on the concrete surface specified in paragraph (f) (1) (i) of this section.

(C) The tire may be graded A only when its adjusted traction coefficient is both:

(1) More than 0.47 when tested in accordance with paragraph (f) (2) of this section on the asphalt surface specified in paragraph (f) (1) (i) of this section, and

(2) More than 0.35 when tested in accordance with paragraph (f) (2) of this section on the concrete surface specified in paragraph (f) (1) (i) of this section.

(iii) *Temperature resistance.* Each tire shall be graded for temperature resistance performance with the word "TEMPERATURE" followed by the letter A, B, or C, based on its performance when the tire is tested in accordance with the procedures specified in paragraph (g) of this section. A tire shall be considered to have successfully completed a test stage in accordance with this paragraph if, at the end of the test stage, it exhibits no visual evidence of tread, sidewall, ply, cord, innerliner or bead separation, chunking, broken cords, cracking or open splices as defined in § 571.109 of this chapter, and the tire pressure is not less than the pressure specified in paragraph (g) (1) of this section.

(A) The tire shall be graded C if it fails to complete the 500 rpm test stage specified in paragraph (g) (9) of this section.

(B) The tire may be graded B only if it successfully completes the 500 rpm test stage specified in paragraph (g) (9) of this section.

(C) The tire may be graded A only if it successfully completes the 575 rpm test stage specified in paragraph (g) (9) of this section.

(e) *Treadwear grading conditions and procedures.*— (1) *Conditions.* (i) Tire treadwear performance is evaluated on a specific roadway course approximately 400 miles in length, which is established by the NHTSA both for its own compliance testing and for that of regulated persons. The course is designed to produce treadwear rates that are generally representative of those encountered in public use for tires of differing construction types. The course and driving procedures are described in Appendix A to this section.

(ii) Treadwear grades are evaluated by first measuring the performance of a candidate tire on the government test course, and then correcting the projected mileage obtained to account for environmental variations on the basis of the performance of course monitoring tires of the same general construction type (bias, bias-belted, or radial) run in the same convoy. The three types of course monitoring tires are made available by the NHTSA at Goodfellow Air Force Base, San Angelo, Tex., for purchase by any persons conducting tests at the test course.

(iii) In convoy tests each vehicle in the same convoy, except for the lead vehicle, is throughout the test within human eye range of the vehicle immediately ahead of it.

(iv) A test convoy consists of no more than four passenger cars, each having only rear-wheel drive.

[(v) On each convoy vehicle, all tires are mounted on identical rims of design or measuring rim width specified for tires of that size in accordance with 49 CFR 571.109, § 4.4.1(a) or (b), or a rim having a width within -0 to +0.50 inches of the width listed. (47 F.R. 25931—June 15, 1982. Effective: June 15, 1982)]

(2) *Treadwear grading procedure.* (i) Equip a convoy with course monitoring and candidate tires of the same construction type. Place four course monitoring tires on one vehicle. On each other vehicle, place four candidate tires that are identical with respect to with identical size designations. On each axle, manufacturer and line.

(ii) Inflate each candidate and each course monitoring tire the applicable pressure in Table 1 of this section.

[(iii) Load each vehicle so that the load on each course monitoring and candidate tire is 85 percent of the test load specified in § 575.104(h). (47 F.R. 25931—June 15, 1982. Effective: June 15, 1982)]

(iv) Adjust wheel alignment to that specified by the vehicle manufacturer.

(v) Subject candidate and course monitoring tires to "break-in" by running the tires in convoy for two circuits of the test roadway (800 miles). At the end of the first circuit, rotate each vehicle's tires by moving each front tire to the same side of the rear axle and each rear tire to the opposite side of the front axle.

(vi) After break-in, allow the tires to cool to the inflation pressure specified in paragraph (e) (2) (ii) of this section or for 2 hours, whichever occurs first. Measure, to the nearest 0.001 inch, the tread depth of each candidate and course monitoring tire, avoiding treadwear indicators, at six equally spaced points in each groove. For each tire compute the average of the measurements. Do not include those shoulder grooves which are not provided with treadwear indicators.

(vii) Adjust wheel alignment to the manufacturer's specifications.

(viii) Drive the convoy on the test roadway for 6,400 miles. After each 800 miles:

(A) Following the procedure set out in paragraph (e) (2) (vi) of this section, allow

the tires to cool and measure the average tread depth of each tire;

(B) Rotate each vehicle's tires by moving each front tire to the same side of the rear axle and each rear tire to the opposite side of the front axle.

(C) Rotate the vehicles in the convoy by moving the last vehicle to the lead position. Do not rotate driver position within the convoy.

(D) Adjust wheel alignment to the vehicle manufacturer's specifications, if necessary.

(ix) Determine the projected mileage for each candidate tire as follows:

(A) For each course monitoring and candidate tire in the convoy, using the average tread depth measurements obtained in accordance with paragraphs (e) (2) (vi) of this section and the corresponding mileages as data points, apply the method of least squares as described in Appendix C of this section to determine the estimated regression line of y on x given by the following formula:

$$y = a + \frac{bx}{1000}$$

where:

y = average tread depth in mils,

x = miles after break-in,

a = y intercept of regression line (reference tread depth) in mils, calculated using the method of least squares; and

b = the slope of the regression line in mils of tread depth per 1,000 miles, calculated using the method of least squares. This slope will be negative in value. The tire's wear rate is defined as the absolute value of the slope of the regression line.

(B) Average the wear rates of the four course monitoring tires as determined in accordance with paragraph (e) (2) (ix) (A) of this section.

(C) Determine the course severity adjustment factor by dividing the base wear rate for the course monitoring tire (see note below) by the average wear rate for the four course monitoring tires determined in accordance with paragraph (e) (2) (ix) (B) of this section.

NOTE.—The base wear rates for the course monitoring tires will be furnished to the purchaser at the time of purchase.

(D) Determine the adjusted wear rate for each candidate tire by multiplying its wear rate determined in accordance with paragraph (e) (2) (ix) (A) of this section by the course severity adjustment factor determined in accordance with paragraph (e) (2) (ix) (C) of this section.

(E) Determine the projected mileage for each candidate tire using the following formula:

$$\text{Projected mileage} = \frac{1000(a - 62)}{b'} + 800$$

where:

a = y intercept of regression line (reference tread depth) for the candidate tire as determined in accordance with paragraph (e) (2) (ix) (A) of this section.

b' = the adjusted wear rate for the candidate tire as determined in accordance with paragraph (e) (2) (ix) (D) of this section.

(F) Compute the percentage of the NHTSA nominal treadwear value for each candidate tire using the following formula:

$$P = \frac{\text{Projected Mileage}}{30,000} \times 100$$

Round off the percentage to the nearest lower 10% increment.

(f) *Traction grading conditions and procedures.*—(1) *Conditions.* (i) Tire traction performance is evaluated on skid pads that are established, and whose severity is monitored, by the NHTSA both for its compliance testing and for that of regulated persons. The test pavements are asphalt and concrete surfaces constructed in accordance with the specifications for pads "C" and "A" in the "Manual for the Construction and Maintenance of Skid Surfaces," National Technical Information Service No. DOT-HS-800-814. The surfaces have locked wheel traction coefficients when evaluated in accordance with paragraphs (f) (2) (i) through (f) (2) (vii) of this section of 0.50 ± 0.10 for the asphalt and 0.35 ± 0.10 for the concrete. The location of the skid pads is described in Appendix B to this section.

(ii) The standard tire is the American Society for Testing and Materials (ASTM) E 501 "Standard Tire for Pavement Skid Resistance Tests."

(iii) The pavement surface is wetted in accordance with paragraph 3.5, "Pavement Wetting System," of ATSM Method E 274-79, "Skid Resistance of Paved Surfaces Using a Full-Scale Tire."

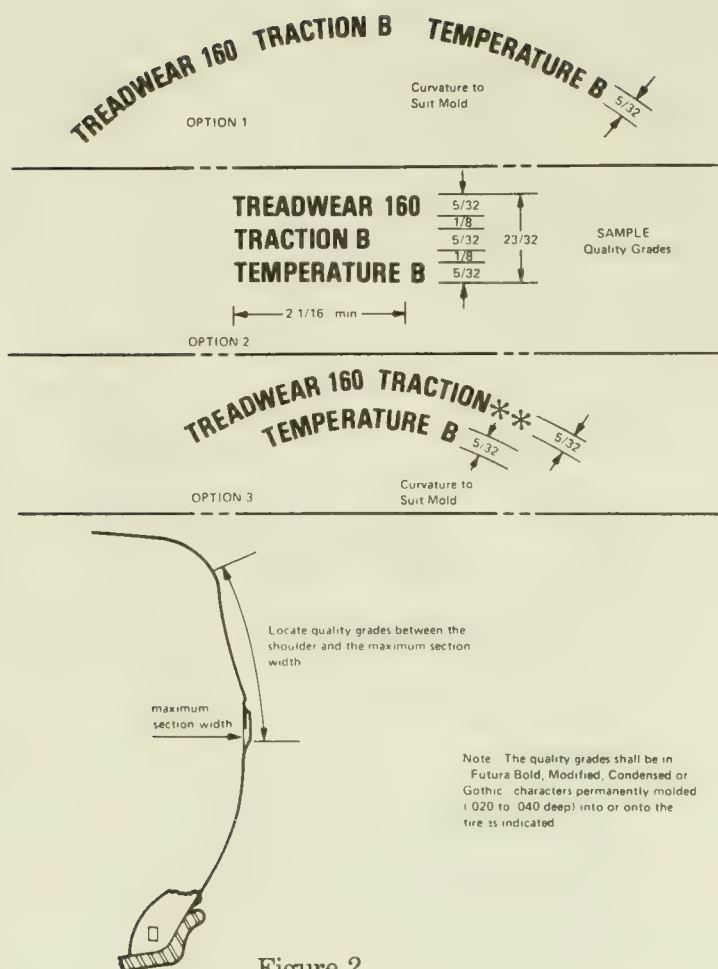


Figure 2

[Part 1] DOT Quality Grades

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and a half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction

The traction grades, from highest to lowest, are A, B, and C, and they represent the tire's ability to stop on wet pavements as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. **WARNING:** The traction grade assigned to this tire is based on braking (straightahead) traction tests and does not include cornering (turning) traction.

Temperature

The temperature grades of A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. **WARNING:** The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, under-inflation, or excessive loading either separately or in combination, can cause heat buildup and possible tire failure.

[Part II] All Passenger Car Tires Must Conform to Federal Safety Requirements in Addition to These Grades.

(iv) The test apparatus is a test trailer built in conformity with the specifications in paragraph 3, "Apparatus," of ASTM Method E 274-79, and instrumented in accordance with paragraph 3.3.2 of that Method, except that "wheel load" in paragraph 3.2.2 and tire and rim specifications in paragraph 3.2.3 of that Method are as specified in the procedures in paragraph (f) (2) of this section for standard and candidate tires.

(v) The test apparatus is calibrated in accordance with ASTM Method F 377-74, "Standard Method for Calibration of Braking Force for Testing of Pneumatic Tires" with the trailer's tires inflated to 24 psi and loaded to 1,085 pounds.

(vi) Consecutive tests on the same surface are conducted not less than 30 seconds apart.

(vii) A standard tire is discarded in accordance with ASTM Method E 501.

(2) *Procedure.* (i) Prepare two standard tires as follows:

(A) Condition the tires by running them for 200 miles on a pavement surface.

(B) Mount each tire on a rim of design or measuring rim width specified for tires of its size in accordance with 49 CFR 571.109, § 4.4.1(a) or (b), or a rim having a width within -0 to +0.50 inches of the width listed. Then inflate the tire to 24 psi, or, in the case of a tire with inflation pressure measured in kilopascals, to 180 kPa.

(C) Statically balance each tire-rim combination.

(D) Allow each tire to cool to ambient temperature and readjust its inflation pressure to 24 psi, or, in the case of a tire with inflation pressure measured in kilopascals, to 180 kPa.

(ii) Mount the tires on the test apparatus described in paragraph (f) (1) (iv) of this section and load each tire to 1,085 pounds.

(iii) Tow the trailer on the asphalt test surface specified in paragraph (f) (1) (i) of this section at a speed of 40 mph, lock one trailer wheel, and record the locked-wheel traction coefficient on the tire associated with that wheel between 0.5 and 1.5 seconds after lockup.

(iv) Repeat the test on the concrete surface, locking the same wheel.

(v) Repeat the tests specified in paragraphs (f) (2) (iii) and (f) (2) (iv) of this section for a total of 10 measurements on each test surface.

(vi) Repeat the procedures specified in paragraphs (f) (2) (iii) through (f) (2) (v) of this section, locking the wheel associated with the other tire.

(vii) Average the 20 measurements taken on the asphalt surface to find the standard tire traction coefficient for the asphalt surface. Average the 20 measurements taken on the concrete surface to find the standard tire traction coefficient for the concrete surface. The standard tire traction coefficient so determined may be used in the computation of adjusted traction coefficients for more than one candidate tire.

(viii) Prepare two candidate tires of the same construction type, manufacturer, line, and size designation in accordance with paragraph (f) (2) (i) of this section, mount them on the test apparatus, and test one of them according to the procedures of paragraph (f)(2)(ii) through (v) of this section, except load each tire to 85% of the test load specified in §575.104(h).

Table 1.—Test Inflation Pressures

<i>Maximum permissible inflation pressure</i>	<i>32 lb/in²</i>	<i>36 lb/in²</i>	<i>40 lb/in²</i>	<i>240 kPa</i>	<i>280 kPa</i>	<i>300 kPa</i>	[340 kPa
Pressure to be used in tests for treadwear treadwear and in determination of tire load for temperature resistance testing	24	28	32	180	220	180	220
Pressure to be used for all aspects of aspects of temperature resistance testing other than determination of tire load	30	34	38	220	260	220	260]

[(53 F.R. 17950—May 19, 1988. Effective: June 20, 1988)]

procedures of paragraph (f) (2) (ii) through (v) of this section, except load each tire to 85% of the test load specified in § 575.104(h).

(ix) Compute a candidate tire's adjusted traction coefficient for asphalt (m_a) by the following formula:

$$m_a = \text{Measured candidate tire coefficient for asphalt} + 0.50 \\ - \text{Measured standard tire coefficient for asphalt}$$

(x) Compute a candidate tire's adjusted traction coefficient for concrete (m_c) by the following formula:

$$m_c = \text{Measured candidate tire coefficient for concrete} + 0.35 \\ - \text{Measured standard tire coefficient for concrete}$$

(g) *Temperature resistance grading.* (1) Mount the tire on a rim of design or measuring rim width specified for tires of its size in accordance with 49 CFR 571.109, § 4.4.1(a) or (b) CFR 571.109, § 4.4.1(a) or (b) and inflate it to the applicable pressure specified in Table 1 of this section.

(2) Condition the tire-rim assembly to any temperature up to 95°F for at least 3 hours.

(3) Adjust the pressure again to the applicable pressure specified in Table 1 of this section.

(4) Mount the tire-rim assembly on an axle, and press the tire tread against the surface of a flat-faced steel test wheel that is 67.23 inches in diameter and at least as wide as the section width of the tire.

(5) During the test, including the pressure measurements specified in paragraphs (g) (1) and (g) (3) of this section, maintain the temperature of the ambient air, as measured 12 inches from the edge of the rim flange at any point on the circumference on either side of the tire at any temperature up to 95°F. Locate the temperature sensor so that its readings are not affected by heat radiation, drafts, variations in the temperature of the surrounding air, or guards or other devices.

(6) Press the tire against the test wheel with a load of 88 percent of the tire's maximum load rating as marked on the tire sidewall.

(7) Rotate the test wheel at 250 rpm for 2 hours.

(8) Remove the load, allow the tire to cool to 95°F or for 2 hours, whichever occurs last, and

readjust the inflation pressure to the applicable pressure specified in Table 1 of this section.

(9) Reapply the load and without interruption or readjustment of inflation pressure, rotate the test wheel at 375 rpm for 30 minutes, and then at successively higher rates in 25 rpm increments, each for 30 minutes, until the tire has run at 575 rpm for 30 minutes, or to failure, whichever occurs first.

(h) *Determination of test load.* [(1) To determine test loads for purposes of paragraphs (e) (2) (iii) and (f) (2) (viii), follow the procedure set forth in paragraphs (h) (2) through (5) of this section. (48 F.R. 8929—March 9, 1984. Effective: July 1, 1984)]

(2) Determine the tire's maximum inflation pressure and maximum load rating both as specified on the tire's sidewall.

(3) Determine the appropriate multiplier corresponding to the tire's maximum inflation pressure, as set forth in Table 2.

(4) Multiply the tire's maximum load rating by the multiplier determined in paragraph (3). This is the tire's calculated load.

(5) Round the product determined in paragraph (4) (the calculated load) to the nearest multiple of ten pounds or, if metric units are used, 5 kilograms. For example, 903 pounds would be rounded to 900 and 533 kilograms would be rounded to 535. This figure is the test load.

TABLE 2*

Maximum inflation pressure	Multiplier to be used for treadwear testing	Multiplier to be used for traction testing
32 psi	.851	.851
36 psi	.870	.797
40 psi	.883	.753
240 psi	.866	.866
280 psi	.887	.804
300 psi	.866	.866

* NOTE: Prior to July 1, 1984, the multipliers in the above table are not to be used in determining loads for the tire size designations listed below in Table 2A. For those designations, the load specifications in that table shall be used in UTQG testing during that period. These loads are the actual loads at which testing shall be conducted and should not be multiplied by the 85 percent factors specified for treadwear and traction testing.

Table 2A

Tire Size Designation	Temp Resistance			Traction	Treadwear		
	Max Pressure				Max Pressure		
	32	36	40		32	36	40
145/70 R13	615	650	685	523	523	553	582
155/70 R13	705	740	780	599	599	629	663
165/70 R13	795	835	880	676	676	710	748
175/70 R13	890	935	980	757	757	795	833
185/70 R13	990	1040	1090	842	842	884	926
195/70 R13	1100	1155	1210	935	935	982	1029
155/70 R14	740	780	815	629	629	663	693
175/70 R14	925	975	1025	786	786	829	871
185/70 R14	1045	1100	1155	888	888	935	982
195/70 R14	1155	1220	1280	982	982	1037	1088
155/70 R15	770	810	850	655	655	689	723
175/70 R15	990	1040	1090	842	842	884	927
185/70 R15	1100	1155	1210	935	935	982	1029
5.60-13	725	810	880	616	616	689	748
5.20-14	695	785	855	591	591	667	727
165-15	915	1015	1105	779	779	863	939
185/60 R13	845	915	980	719	719	778	833

[(i) *Effective dates for treadwear grading requirements for radial tires.*

(1) Treadwear labeling requirements of §575.104 (d)(1)(i)(B)(2) apply to tires manufactured on or after April 1, 1985.

(2) Requirements for NHTSA review of treadwear information in consumer brochures, as specified in paragraph 575.6(d)(2), are effective April 1, 1985.

(3) Treadwear consumer information brochure requirements of paragraph 575.6(c) are effective May 1, 1985.

(6) Treadwear sidewall molding requirements of §575.104(d)(1)(i)(A) apply to tires manufactured on or after September 1, 1985.

(j) *Effective dates for treadwear grading requirements for bias ply tires.*

(1) Treadwear labeling requirements of §575.104 (d)(1)(i)(B)(2) apply to tires manufactured on or after December 15, 1984.

(2) Requirements for NHTSA review of treadwear information in consumer brochures,

as specified in paragraph 575.6(d)(2), are effective December 15, 1984.

(3) Treadwear consumer information brochure requirements of paragraph 575.6(c) are effective January 15, 1985.

(4) Treadwear sidewall molding requirements of §575.104(d)(1)(i)(A) apply to tires manufactured on or after May 15, 1985.

(k) *Effective dates for treadwear grading requirements for bias belted tires.*

(1) Treadwear labeling requirements of §575.104 (d)(1)(i)(B)(2) apply to tires manufactured on or after March 1, 1985.

(2) Requirements for NHTSA review of treadwear information in consumer brochures, as specified in paragraph 575.6(d)(2), are effective March 1, 1985.

(3) Treadwear consumer information brochure requirements of paragraph 575.6(c) are effective April 1, 1985.

(4) Treadwear sidewall molding requirements of §575.104(d)(1)(i)(A) apply to tires manufactured on or after August 1, 1985.

(l) *Effective date for treadwear information requirements for vehicle manufacturers.*

Vehicle manufacturer treadwear information requirements of §§575.6(a) and 575.104(d)(1)(iii) are effective September 1, 1985. (49 F.R. 49293—December 19, 1984. Effective: see Preamble to Docket No. 25; Notice 58)]

§ 575.105 Utility Vehicles

(a) *Purpose and scope.* This section requires manufacturers of utility vehicles to alert drivers that the particular handling and maneuvering characteristics of utility vehicles require special driving practices when those vehicles are operated on paved roads.

(b) *Application.* This section applies to multipurpose passenger vehicles (other than those which are passenger car derivatives) which have a wheelbase of 110 inches or less and special features for occasional off-road operation ("Utility vehicles").

(c) *Required information.* Each manufacturer shall prepare and affix a vehicle sticker as specified in paragraph 1 of this subsection and shall provide in the vehicle Owner's Manual the information specified in paragraph 2 of this subsection.

(1) A sticker shall be permanently affixed to the instrument panel, windshield frame, driver's side sun visor, or in some other location in each vehicle prominent and visible to the driver. The sticker shall be printed in a typeface and color which are clear and conspicuous. The sticker shall have the following or similar language:

This is a multipurpose passenger vehicle which will handle and maneuver differently from an ordinary passenger car, in driving conditions which may occur on streets and highways and off road. As with other vehicles of this type, if you make sharp turns or abrupt maneuvers, the vehicle may rollover or may go out of control and crash.

You should read driving guidelines and instructions in the Owner's Manual, and WEAR YOU SEATBELTS AT ALL TIMES.

The language on the sticker required by paragraph (1) and in the Owner's Manual, as required in paragraph (2), may be modified as is desired by the manufacturer to make it appropriate for a specific vehicle design, to ensure that consumers are adequately informed concerning the unique propensities of a particular vehicle model.

(2) (i) The vehicle Owner's Manual shall include the following statement in its introduction.

As with other vehicles of this type, failure to operate this vehicle correctly may result in loss of control or an accident. Be sure to read "on-pavement" and "off-road" driving guidelines which follow.

(ii) The vehicle Owner's Manual shall include the following or similar statement:

Utility vehicles have higher ground clearance and a narrower track to make them capable of performing in a wide variety of off-road applications. Specific design characteristics give them a higher center of gravity than ordinary cars. An advantage of the higher ground clearance is a better view of the road allowing you to anticipate problems. They are not designed for cornering at the same speeds as conventional 2-wheel drive vehicles any more than low-slung sports cars are designed to perform satisfactorily under off-road conditions. If at all possible, avoid sharp turns or abrupt maneuvers. As with other vehicles of this type, failure to operate this vehicle correctly may result in loss of control or vehicle rollover.

§ 575.106 Deleted

**34 F.R. 8112
May 23, 1969**

APPENDIX A

Treadwear Test Course and Driving Procedures

INTRODUCTION

The test course consists of three loops of a total of 400 miles in the geographical vicinity of Goodfellow AFB, San Angelo, Texas.

The first loop runs south 143 miles through the cities of Eldorado, Sonora, and Juno, Texas, to the Camp Hudson Historical Marker, and returns by the same route.

The second loop runs east over Farm and Ranch Roads (FM) and returns to its starting point.

The third loop runs northwest to Water Valley, northeast toward Robert Lee and returns via Texas 208 to the vicinity of Goodfellow AFB.

ROUTE

The route is shown in Figure 3. The table identifies key points by number. These numbers are encircled in Figure 3 and in parentheses in the descriptive material that follows.

Southern Loop

The course begins at the intersection (1) of Ft. McKavitt Road and Paint Rock Road (FM 388) at the northwest corner of Goodfellow AFB.

Drive east via FM 388 to junction with Loop Road 306 (2). Turn right onto Loop Road 306 and proceed south to junction with US 277 (3). Turn onto US 277 and proceed south through Eldorado and Sonora (4), continuing on US 277 to junction with FM 189 (5). Turn right onto FM 189 and proceed to junction with Texas 163 (6). Turn left onto Texas 163, proceed south to Camp Hudson Historical Marker (7) and onto the paved shoulder. Reverse route to junction of Loop Road 306 and FM 388 (2).

Eastern Loop

From junction of Loop Road 306 and FM 388 (2) make right turn onto FM 388 and drive east to junction with FM 2334 (13). Turn right onto FM 2334 and proceed south across FM 765 (14) to junction of FM 2334 and US 87 (15). Make U-turn and return to junction of FM 388 and Loop Road 306 (2) by the same route.

Northwestern Loop

From junction of Loop Road 306 and FM 388 (2), make right turn onto Loop Road 306. Proceed onto US 277, to junction with FM 2105(8). Turn left onto FM 2105 and proceed west to junction with US 87 (10). Turn right on US 87 and proceed northwest to the junction with FM 2034 near the town of Water Valley (11). Turn right



FIGURE 3

onto FM 2034 and proceed north to Texas 208 (12). Turn right onto Texas 208 and proceed south to junction with FM 2105 (9). Turn left onto FM 2105 and proceed east to junction with US 277 (8). Turn right onto US 277 and proceed south onto 306 to junction with 388 (2). Turn right onto 388 and proceed to starting point at junction of Ft. McKavitt Road and FM 388 (1).

DRIVING INSTRUCTIONS

The drivers shall run at posted speed limits throughout the course unless an unsafe condition arises. If such condition arises, the speed should be reduced to the maximum safe operating speed.

BRAKING PROCEDURES AT STOP SIGNS

There are a number of intersections at which stops are required. At each of these intersections a series of signs is placed in a fixed order as follows:

Sign Legend

Highway Intersection 1000 (or 2000) Feet

S T O P A H E A D

Junction X X X

Direction Sign (Mereta→)

S T O P or Y I E L D

PROCEDURES

1. Approach each intersection at the posted speed limit.

2. When abreast of the S T O P A H E A D sign, apply the brakes so that the vehicle decelerates smoothly to 20 mph when abreast of the direction sign.

3. Come to a complete stop at the S T O P sign or behind any vehicle already stopped.

KEY POINTS ALONG TREADWEAR TEST COURSE, APPROX. MILEAGES, AND REMARKS

	<i>Mileages</i>	<i>Remarks</i>
1 Ft. McKavitt Road & FM 388	0	
2 FM388 & Loop 306 ..	3	STOP
3 Loop 306 & US277 ..	10	
4 Sonora	72	
5 US 277 & FM 189 ...	88	
6 FM 189 & Texas 163 .	124	
7 Historical Marker ... (Camp Hudson)	143	U-TURN
4 Sonora	214	
3 Loop 306 & US 277 ..	276	
2 FM 388 & Loop 306 .	283	
13 FM 388 & FM 2334 ..	290	STOP
14 FM 2334 & FM 765 ..	292	STOP
15 FM 2334 & US 87 ...	295	U-TURN
14 FM 2334 & FM 765 ..	298	STOP
13 FM 388 & FM 2334 ..	300	STOP/YIELD/ BLINKING RED LIGHT
2 FM 388 & Loop 306 .	307	STOP/YIELD/ BLINKING RED LIGHT
8 US 277 & FM 2105 ..	313	
9 FM 2105 & Texas 208	317	STOP
10 FM 2105 & US 87 ...	320	STOP
11 FM 2034 & US 87 ...	338	
12 FM 2034 & Texas 208	362	YIELD
9 FM 2105 & Texas 208	387	
8 FM 2105 & US 277 ..	391	YIELD/STOP
2 FM 388 & Loop 306 .	397	
1 Ft. McKavitt Road & FM 388	400	

APPENDIX B

Traction Skid Pads

Two skid pads have been laid on an unused runway and taxi strip on Goodfellow AFB. Their location is shown in Figure 4.

The asphalt skid pad is 600 ft x 60 ft and is shown in black on the runway in Figure 4. The pad is approached from either end by a 75 ft ramp followed by 100 ft. of level pavement. This arrangement permits the skid trailers to stabilize before reaching the test area. The ap-

proaches are shown on the figure by the hash-marked area.

The concrete pad is 600 ft x 48 ft and is on the taxi strip. The approaches to the concrete pad are of the same design as those for the asphalt pads.

A two lane asphalt road has been built to connect the runway and taxi strip. The road is parallel to the northeast-southwest runway at a distance of 100 ft. The curves have super-elevation to permit safe exit from the runway at operating speeds.

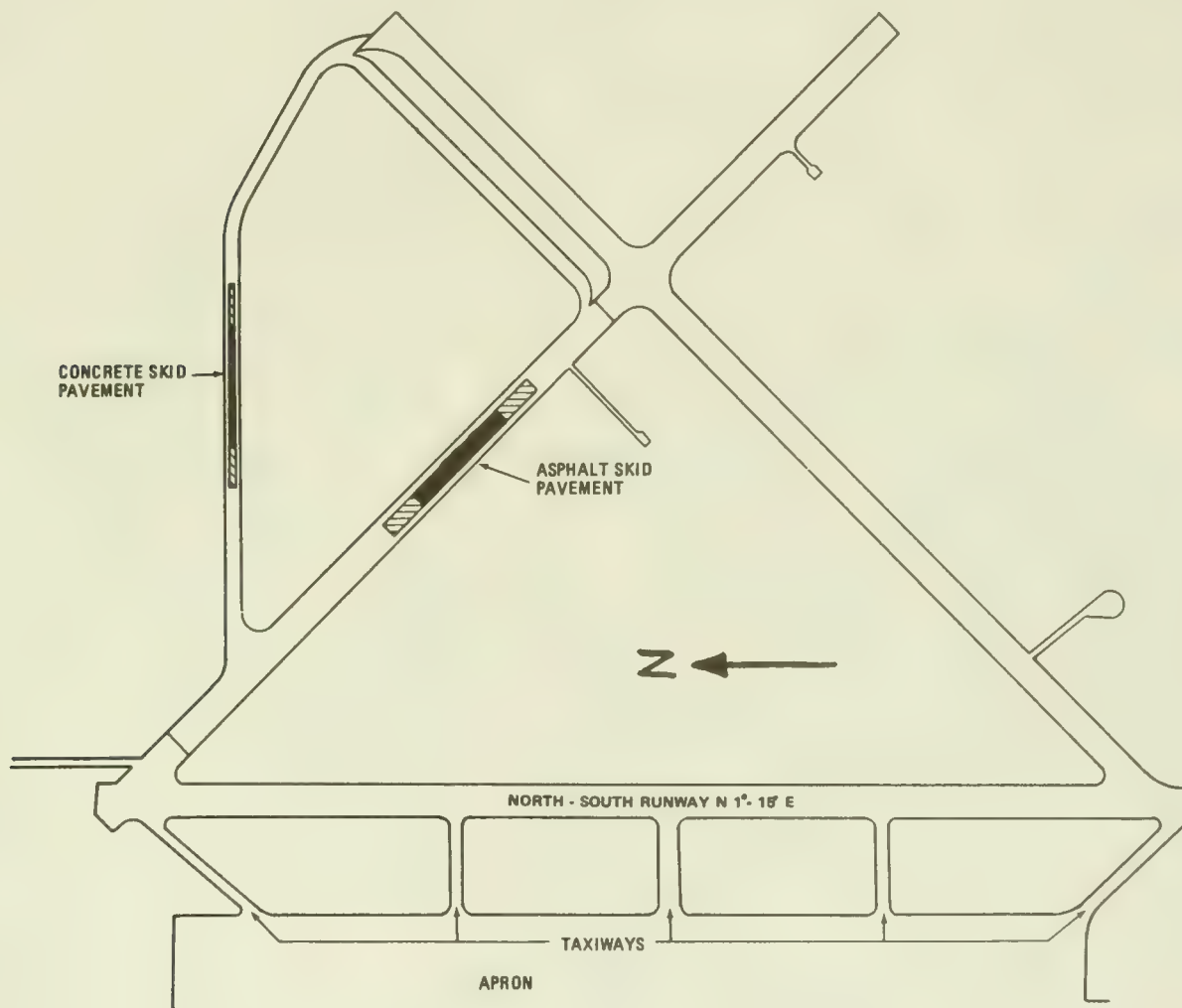


FIGURE 4

APPENDIX C

Method Of Least Squares

The method of least squares is a method of calculation by which it is possible to obtain a reliable estimate of a true physical relationship from a set of data which involve random error. The method may be used to establish a regression line that minimizes the sum of the squares of the deviations of the measured data points from the line. The regression line is consequently described as the line of "best fit" to the

data points. It is described in terms of its slope and its "y" intercept.

The graph in Figure 5 depicts a regression line calculated using the least squares method from data collected from a hypothetical treadwear test of 6,400 miles, with tread depth measurements made at every 800 miles.

In this graph, (x_j, y_j) [$j=0, 1, \dots, 8$] are the individual data points representing the tread depth measurements (the overall average for the tire with 6 measurements in each tire groove) at the beginning of the test (after break-in and at the end of each 800-mile segment of the test.

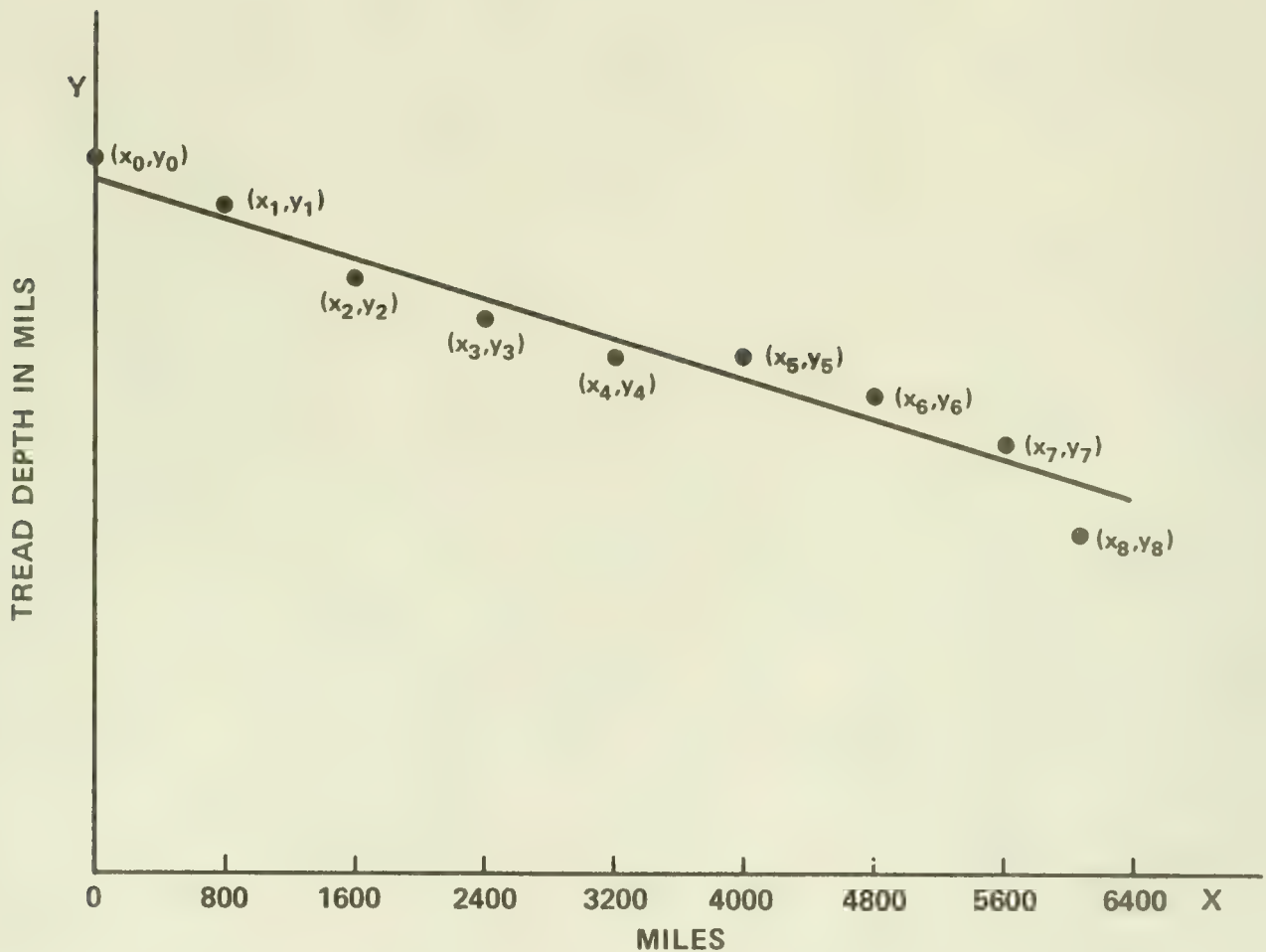


Figure 5

The absolute value of the slope of the regression line is an expression of the mils of tread worn per 1,000 miles, and is calculated by the following formula:

$$b = 1000 \frac{\left(\sum_{j=0}^8 X_j Y_j - \frac{1}{9} \sum_{j=0}^8 X_j \sum_{j=0}^8 Y_j \right)}{\sum_{j=0}^8 X_j^2 - \frac{1}{9} \left(\sum_{j=0}^8 X_j \right)^2}$$

The "y" intercept of the regression line (a) in mils is calculated by the following formula:

$$a = \frac{1}{9} \sum_{j=0}^8 Y_j - \frac{b}{9000} \sum_{j=0}^8 X_j$$

PREAMBLE TO PART 576—RECORD RETENTION**(Docket No. 74-31; Notice 1)**

This notice establishes an immediate temporary requirement for retention by motor vehicle manufacturers of records concerning malfunctions that may be related to motor vehicle safety.

By a separate notice published today, 39 FR 30048, the NHTSA proposes to establish permanent requirements for the retention of records by manufacturers. The proposed rule would require motor vehicle manufacturers to retain for 5 years all records in their possession relating to failures, malfunctions, or flaws that could be a causative factor in accidents or injuries. These records are needed in agency investigations of possible defects related to motor vehicle safety, or of nonconformity to the safety standards and regulations. A fuller discussion of the proposal is contained in that notice.

The NHTSA finds it important that existing records and those that may be generated or acquired while this rulemaking is under consideration not be disposed of prior to the permanent effectiveness of the rule. In order to maintain the status quo, therefore, this rule is issued to be

effective immediately upon posting for public inspection at the *Federal Register*. For the reasons stated, pursuant to 5 U.S.C. 553(b), notice and public procedure thereon with respect to this interim notice are found to be impracticable and contrary to the public interest. This rule in its present form will be effective only until action is taken upon the proposed permanent rule issued concurrently.

In light of the foregoing, a new Part 576, *Record Retention*, is added to Title 49, Code of Federal Regulations.

Effective date: August 15, 1974.

AUTHORITY: Sec. 108, 112, 113, 119, Pub. L. 89-563, 80 Stat. 718, 15 U.S.C. 1397, 1401, 1402, 1407; delegation of authority at 49 CFR 1.51.

Issued on August 13, 1974.

James B. Gregory
Administrator
39 F.R. 30045
August 20, 1974

PART 576—RECORD RETENTION

(Docket No. 74-13; Notice 1)

Sec.

576.1 Scope.

576.2 Purpose.

576.3 Application.

576.4 Definitions.

576.5 Basic Requirement.

576.6 Records.

576.7 Retention.

576.8 Malfunctions Covered.

§ 576.1 Scope. This part establishes requirements for the retention by motor vehicle manufacturers of complaints, reports, and other records concerning motor vehicle malfunctions that may be related to motor vehicle safety.

§ 576.2 Purpose. The purpose of this part is to preserve records that are needed for the proper investigation, and adjudication or other disposition, of possible defects related to motor vehicle safety and instances of nonconformity to the motor vehicle safety standards and associated regulations.

§ 576.3 Application. This part applies to all manufacturers of motor vehicles, with respect to all records generated or acquired after August 15, 1969.

§ 576.4 Definitions. All terms in this part that are defined in the Act are used as defined therein.

§ 576.5 Basic Requirements. Each manufacturer of motor vehicles shall retain as specified in § 576.7 all records described in § 576.6 for a period of 5 years from the date on which they were generated or acquired by the manufacturer.

§ 576.6 Records. Records to be retained by manufacturers under this part include all documentary materials, films, tapes, and other information-storing media that contain information concerning malfunctions that may be related to motor vehicle safety. Such records include, but are not limited to, communications from vehicle users and memoranda of user complaints; reports and other documents related to work performed under, or claims made under, warranties; service reports or similar documents from dealers or manufacturer's field personnel; and any lists, compilations, analyses, or discussions of such malfunctions contained in internal or external correspondence of the manufacturer.

§ 576.7 Retention. Duplicate copies need not be retained. Information may be reproduced or transferred from one storage medium to another (e.g., from paper files to microfilm) as long as no information is lost in the reproduction or transfer, and when so reproduced or transferred the original form may be treated as a duplicate.

§ 576.8 Malfunctions covered. For purposes of this part, "malfunctions that may be related to motor vehicle safety" shall include, with respect to a motor vehicle or item of motor vehicle equipment, any failure or malfunction beyond normal deterioration in use, or any failure of performance, or any flaw or unintended deviation from design specifications, that could in any reasonably foreseeable manner be a causative factor in, or aggravate, an accident or an injury to a person.

39 F.R. 30045

August 20, 1974

PREAMBLE TO PART 577—DEFECT NOTIFICATION

(Docket No. 72-7; Notice 2)

This notice establishes a new regulation covering notifications of motor vehicle safety defects and nonconformity to safety standards. The notice proposing these regulations was published May 17, 1972 (37 F.R. 9783).

The regulation is intended to improve the response of owners in vehicle notification campaigns. Data which the NHTSA has been receiving on the completion rates of notification campaigns show a wide range of completion rates, with campaigns involving newer vehicles, and more serious safety problems, having higher completion rates than others. In many campaigns, however, the rate is alarmingly low.

An examination of the notifications sent by manufacturers reveals wide disparity in emphasis. Although precise evaluation of the impact of notification letters is difficult, due to its being largely subjective, the NHTSA is of the opinion that many notifications have tended to deemphasize the safety problems involved. Some of these notification letters are questionably within the requirements of the National Traffic and Motor Vehicle Safety Act, and litigation on a case by case basis to improve them is practicable. These regulations are intended to ensure that all notification letters contain sufficient information, as determined by NHTSA, to properly notify purchasers.

The regulation applies to manufacturers of incomplete and complete motor vehicles, and motor vehicle equipment. In the case of vehicles manufactured in two or more stages, compliance by any one of the manufacturers of the vehicle is considered compliance by all. This provision is based on similar language in the Defect Reports regulation (Part 573 of this chapter), and is included in response to comments received.

The regulation requires the notification to contain substantially the information specified in

the proposal. It requires each notification to begin with a statement that it is sent pursuant to the requirements of the National Traffic and Motor Vehicle Safety Act. The NHTSA did not concur with comments to the effect that the inclusion of this statement would not promote the purpose of the regulation. The regulation requires the notification to state that the manufacturer, or the National Highway Traffic Safety Administrator, as the case may be, has determined that a defect relating to motor vehicle safety (or a noncompliance with a motor vehicle safety standard) exists in the vehicle type, or item of motor vehicle equipment, with which the notification is concerned. When the manufacturer (or the Administrator) has, as part of his determination, also found that the defect may not exist in each such vehicle or equipment item, he may include a statement to that effect. The NHTSA has decided to allow such statements based on comments that many defects in fact do not exist in each vehicle or equipment item of the group whose owners are notified.

The manufacturer must also describe the defect, evaluate the risk it poses to traffic safety, and specify measures which the recipient should take to have it remedied. In each case, the regulation requires information which the NHTSA has determined will meet these objectives. In describing the defect, the manufacturer must indicate the vehicle system or particular items of equipment affected, describe the malfunction that may occur, including operating conditions that may cause it to occur, and precautions the purchaser should take to reduce the likelihood of its occurrence. In providing that the vehicle system affected be mentioned, the regulation reflects comments to the effect that listing each particular part involved would be too technical to be useful to most consumers.

PART 577—PRE 1

In evaluating the risk to traffic safety, the manufacturer must indicate if vehicle crash is the potential result, and whatever warning may occur. Where vehicle crash is not the potential result, the manufacturer must indicate the general type of injury which the defect can cause. Although many comments protested that it was impossible to predict a specific type of injury, the NHTSA believes that manufacturers can easily foresee the general type of injury, such as asphyxiation, that can result from those defects which are not expected to result in crashes.

In stating measures to be taken to repair the defect, the requirements differ in the case where the manufacturer's dealers repair the vehicle free of charge to the purchaser, where the manufacturer merely offers to pay for the repair, and where he refuses to pay for the repair. The purpose of this distinction is to provide information sufficient to have adequate repairs made in each case.

Where the manufacturer's dealers repair the vehicle free of charge, the notification must include a general description of the work involved, the manufacturer's estimate of when his dealers will be supplied with parts and instructions, and his estimate of the time reasonably necessary to perform the labor involved in correcting the defect. The agency's position is that consumers are entitled to know approximately when their cars will be repaired and how much labor is needed in order for the repair to be made. The NHTSA realizes that dealers frequently retain vehicles longer than the actual work involved, due to difficulties in scheduling repairs. However, manufacturers are free to impart this information to consumers under the regulation. Some comments objected to requiring manufacturers to provide information on when replacement parts will be available, on the basis that manufacturers cannot know, at the time a notification is issued, precisely when parts deliveries will be made to dealers. To include this information, it is argued, would therefore delay the issuance of the notification. The NHTSA has modified the proposed language to allow manufacturers to "estimate" when corrective parts will be available. The estimate would be based on the manufacturer's knowledge at the time the notification is sent, thereby eliminating any reasons for delay.

When manufacturers do not provide for repairs to be made by dealers, the notification is required to contain, in addition, full lists of parts and complete instructions on making the repairs. The regulation also requires the manufacturer to recommend, generally, where the vehicle should be repaired, and manufacturers are free to make general and specific recommendations. This requirement reflects the intent of the proposal that manufacturers who believe particular repairs may require special expertise should indicate that fact to purchasers.

When the manufacturer does not offer to pay for repairs, he must, in addition, include full cost information on necessary parts. The notice would have required the retail cost of all parts, and information on labor charges of the manufacturer's dealers in the general area of the purchaser. In response to comments, the cost information is limited to the suggested retail price of parts. Manufacturers have indicated they do not set actual prices of parts, but do have suggested list prices. With respect to labor charges, manufacturers have indicated that labor charges vary, and that requiring them to ascertain exact charges would delay issuance of notifications. The NHTSA believes these comments to be well-founded, and has dropped the proposed requirements regarding labor charges. Consumers will still have information on costs of parts, and time necessary for repairs to be performed, from which they can obtain a fair idea of the cost of a repair.

The regulations prohibit the notification from stating or implying that the problem is not a defect, or that it does not relate to motor vehicle safety. Moreover, in those cases where the notification is sent pursuant to the direction of the Administrator, it cannot state or imply that the manufacturer disagrees with the Administrator's finding. Many comments opposed these requirements on the basis that they unconstitutionally limited manufacturers' freedom of speech. The NHTSA emphatically rejects this contention. Notification letters are not intended to serve as forums where manufacturers can argue that problems are not safety-related or dispute the Administration's findings. Their purpose is to unambiguously and adequately induce owners to remedy a potentially hazardous situation. The

NHTSA is of the opinion that there is ample precedent that allows the Federal government to require manufacturers to warn purchasers in a particular manner that certain products they manufacture may be hazardous. If a manufacturer does not believe that his condition is a safety-related defect, he is not required by law to notify owners at all. It is only when he determines that a defect exists that he must notify in accordance with the regulations. Similarly, when the Administrator has made the finding that a certain product is defective, the manufacturer can administratively and judicially challenge this determination as provided in the National Traffic and Motor Vehicle Safety Act before sending a notification.

The NHTSA received other objections to the proposed requirements. Numerous tire manufacturers argued that parts of the regulation dealing with repairs of defects are inappropriate when applied to them, since repairs generally meant replacement. Certain manufacturers of lighting equipment argued that notification requirements should not apply to them at all. The NHTSA disagrees with both of these contentions. In the case of tire manufacturers, the NHTSA believes that the requirements can be followed. If the repair of a defective tire entails its replacement, this can certainly be stated within the regulatory scheme. Similarly, lighting equipment manufacturers are responsible for defects to the same extent as manufacturers of other equipment. The NHTSA rejects completely the argument that no lighting failures can be considered safety-related because of the millions of lights that burn out every year without resulting in accidents. The question in each case is not whether a failure may occur, but whether a defect exists, and whether the defect may cause a hazardous situation to arise.

The notice of proposed rulemaking would have prohibited manufacturers from making statements contemporaneous with the notification that disagreed with its conclusions. This proposal has not been adopted. After careful consideration, the NHTSA has determined that its inclusion is probably unnecessary. The agency's position is that if notification letters clearly and unambiguously describe and evaluate defects in accordance with this regulation, other statements

by manufacturers will not normally affect reactions of consumers.

Certain comments requested that manufacturers be allowed to state in the notification that it does not constitute an admission of liability or wrongdoing. The regulation does not preclude the making of such statements, as the agency has concluded that their inclusion will not significantly deter owners from having repairs made.

One comment suggested that the notification be required to contain a postage-free card by which consumers could notify manufacturers when vehicles had been sold or otherwise disposed of. While the NHTSA believes this practice would be advantageous in improving notification campaigns, it has concluded that such a requirement would be outside the scope of the regulation, which is limited to notifications to first purchasers and warranty holders.

Certain comments objected to the regulations on the ground that they prescribed a rigid format in an area where each case must be treated separately, and thus where flexibility was required. The NHTSA has modified to some extent the proposed restrictions on format. Manufacturers are free, within the limits established, to compose notifications to fit each case. As issued, these regulations do not require rigid, inflexible letters (only the first two sentences must contain specific statements in a set order), but require that manufacturers include certain important items of information. It is hoped that manufacturers in meeting these requirements will provide required information in easily understandable form.

In light of the above, a new Part 577, "Defect Notification" is added to Chapter V of Title 49, Code of Federal Regulations, to read as set forth as below.

Effective date: March 26, 1973. Because these requirements are not technical in nature, and do not require lead times for compliance, good cause exists, and is hereby found, for an effective date less than 180 days from the day of issuance.

Issued on January 17, 1973.

Douglas Toms
Administrator

38 F.R. 2215
January 23, 1973

PREAMBLE TO AMENDMENT TO PART 577—DEFECT NOTIFICATION

(Docket No. 72-7; Notice 3)

This notice responds to petitions for reconsideration of the Defect Notification regulations, published January 23, 1973 (38 FR 2215). Petitions were received from the Firestone Tire and Rubber Company, Chrysler Corporation, the Motor and Equipment Manufacturers' Association, and the Recreational Vehicle Institute. A petition was also received from the Wagner Electric Company. Although not received within 30 days of the regulation's publication (49 CFR 553.35), it has been considered in the preparation of this notice. Insofar as this notice does not grant the requests of the petitioners, they are hereby denied.

The Firestone Tire and Rubber Company has petitioned for reconsideration of section 577.6, "Disclaimers", which prohibits manufacturers from starting or implying that the notification does not involve a safety related defect. Firestone requested that the provision, for Federal Constitutional reasons, be dropped from the rule. This request is denied. The NHTSA does not believe, for the reasons set forth in the notice of January 23, 1973 (38 FR at 2216), that the provision is violative of the Constitution.

Chrysler Corporation has requested that the phrase, "his dealers" be modified in section 577.4(e)(1)(ii), which requires the manufacturer to estimate the date by which his dealers will be supplied with corrective parts and instructions. It argues that the phrase "his dealers" could be interpreted to mean all dealers, regardless of whether all of the manufacturer's dealers are involved in the campaign. This request is denied. Neither section 113 of the Safety Act nor the regulation require a notification campaign to extend to all of the manufacturer's dealers, whether or not they have any involvement in a particular campaign. The NHTSA does not believe that the phrase "his dealers", when read in context, means all of the manufacturer's dealers.

Chrysler also asks that special requirements be specified for the notification of "noncompliance non-operational defects", citing as an example the improper placement of the VIN plate under Motor Vehicle Safety Standard No. 115. Chrysler states that existing provisions of the regulation dealing with malfunctions (specifically 577.4(c)(2), (c)(3), (c)(4)), and evaluating the risk to traffic safety (sections 577.4(d), (d)(1), (d)(1)(i), (d)(1)(ii), (d)(2)) are not pertinent to these defects. This request is denied. The NHTSA does not believe that separate requirements for notification of the type of defect described by Chrysler are either necessary or desirable. If a particular defect does not involve a malfunction, to be in compliance with the regulation a manufacturer should, in response to the appropriate provisions of the regulation, indicate that to be the case. The NHTSA believes this approach will notify purchasers of the defect as effectively as separate, more specific requirements. The NHTSA does not agree that the relationship to safety of these types of defects should not be evaluated in notification letters, similarly to other defects.

The Motor and Equipment Manufacturers Association (MEMA) objects to the requirements of sections 577.4(e)(2)(vi) and 577.4(e)(3)(vi) that the manufacturer recommend whom the purchaser should have perform necessary repair work, and requests that these provisions be deleted. MEMA argues that the requirement is anti-competitive in that it sanctions the steering of consumers to vehicle dealerships for repairs, to the detriment of the independent repair industry, even when the manufacturer does not pay for the repair. MEMA argues that original equipment replacement parts are frequently more expensive than competitively produced parts, resulting in added costs to owners. It argues also that limiting repairs to dealers precludes the use

of the full domestic repair industry, which should be utilized fully given the magnitude of recent notification campaigns.

While the NHTSA appreciates the concern of this association in not being precluded from a large market, the NHTSA believes the requirement as issued to be consistent with the National Traffic and Motor Vehicle Safety Act and the need for motor vehicle safety. The NHTSA has, in issuing the requirement, indicated that manufacturers should indicate to purchasers when special expertise may be necessary to correct defects. The repairs in issue do not involve normal maintenance, but constitute defects whose proper repair is essential to the safety of the nation's highways. Frequently these repairs involve a higher degree of expertise and familiarity with a particular vehicle than that required to perform normal maintenance. If such expertise will more likely be found at dealerships, in the view of the vehicle manufacturer, the NHTSA believes that opinion should be imparted to purchasers.

Moreover, even if the NHTSA deleted the requirement the manufacturer could if he desired, consistently with the regulation, recommend a repair facility. The NHTSA would not prohibit the making of such a recommendation, for it is responsive to the statutory requirement that the notification contain a statement of the measures to be taken to repair the defect (15 U.S.C. 1402(c)). Moreover, the argument that the regulation stifles competition does not appear to have merit. In the event the manufacturer does not bear the cost of repair, the regulation (§ 577.4(e)(3)(i)) requires the manufacturer to provide the purchaser with the suggested list price of repair parts. As a consequence, purchasers will be provided with information with which they can "shop", with full knowledge, for the least expensive repair facilities. The petition is accordingly denied.

The Recreational Vehicle Institute (RVI) has petitioned that the requirements of both section 577.4(a), requiring an opening statement that the notification is sent pursuant to the Act, and section 577.6, prohibiting disclaimers, be deleted. RVI argues such requirements may result in delay by manufacturers in determining that defects

exist, forcing the use of administrative and legal procedures before purchasers are notified. The agency cannot accept the position that the notification should be diluted because of possible evasion by manufacturers. The NHTSA believes that the need that notification letters fully inform purchasers outweighs the possible problems caused by manufacturers delaying their notifications to purchasers until forced to notify them. The request is denied.

RVI points out that section 577.4 seems to assume that defects will be evidenced by some form of mechanical failure. It asks, therefore, whether a safety-related defect can exist where proper corrective action to avoid an occurrence or possible occurrence is appropriate maintenance or operational use. RVI also requests, if NHTSA adheres to its present position regarding these issues, that it undertake rulemaking to define "safety related defect". For the following reasons, these requests are denied. There is no intent in the regulation to limit the concept of safety related defects to those involving mechanical failures. As stated above, in reply to the petition from Chrysler, non-mechanical defects can be the basis of defect notification, and purchasers can be fully notified of them under the present regulatory scheme. Moreover, the NHTSA believes any attempt to precisely define safety related defect would be ill-advised. Whether a defect exists depends solely on the facts of each particular situation. The fact that such determinations may encompass a wide variety of factual situations, and may consequently be difficult to make, does not mean that it is necessary, desirable, or even possible to replace the decision with a simple formula. The NHTSA believes, on the contrary, that the relatively broad definition of defect contained in the Safety Act is best suited to the wide variety of defective conditions that may arise.

RVI has also pointed out that references to a manufacturer's dealers in section 577.4(e), specifying measures to be taken to repair the defect, overlook the fact that manufacturers' dealers may not always provide service facilities, or that manufacturers may use service facilities other than dealers. The NHTSA agrees with RVI, and has therefore modified the provisions of that

section to include "other service facilities of the manufacturer", as well as his dealers.

RVI requested that the regulation be amended to permit compliance by either a component manufacturer or a vehicle manufacturer, when the defect involves a specific component. RVI also requested that compliance be permitted by either the vehicle alterer or the complete vehicle manufacturer in cases involving altered vehicles. The regulations do not prohibit the sending of notification letters by persons other than the vehicle manufacturer. Accordingly, no modification of the regulation is called for. However, manufacturers who do utilize the services of others in meeting requirements still bear the ultimate responsibility for compliance with the regulation under the National Traffic and Motor Vehicle Safety Act.

The Wagner Electric Company has requested that the provisions of the regulation regarding manufacturers of motor vehicle equipment (excluding tires) be reconsidered in light of the fact that, under present marketing procedures, it is difficult or impossible for such manufacturers to notify jobbers, installers, dealers, or consumers. The notification required by the regulation is directed at the notification sent to retail purchasers and not that sent to distributors or dealers of the manufacturer. The notification of the latter is subject only to the statutory provision

of section 113 of the Safety Act (15 U.S.C. 1402). Moreover, manufacturers of equipment (other than tires) who do not have the names of first purchasers are not required to notify them either under the National Traffic and Motor Vehicle Safety Act or the regulation. There is consequently no need for modification of the regulation for the reasons presented by Wagner, and its request is accordingly denied.

In light of the above, Part 577 of Title 49, Code of Federal Regulations, "Defect Notification", is amended

Effective date: April 17, 1973. These amendments impose no additional burdens on any person, and serve only to clarify the application of existing requirements to specific situations. Accordingly, notice and public procedure thereon are unnecessary, and good cause exists for an effective date less than thirty days from the day of publication.

(Sec. 108, 112, 113, 119, Pub. L. 89-563, 80 Stat. 718 as amended, sec. 2, 4, Pub. L. 91-265, 84 Stat. 262 (15 U.S.C. 1397, 1401, 1402, 1408); delegation of authority at 49 CFR 1.51)

Issued on April 10, 1973.

James E. Wilson
Acting Administrator

38 F.R. 9509
April 17, 1973

PREAMBLE TO AMENDMENT TO PART 577—DEFECT NOTIFICATION

(Docket No. 74-42; Notice. 2)

This notice amends 49 CFR Part 577, *Defect Notification*, to require that bilingual notification be sent to owners in certain cases, and to clarify the wording manufacturers are required to use to indicate their determination that a safety-related defect exists.

A notice of proposed rulemaking on this subject was published on November 25, 1974, (39 F.R. 41182) and an opportunity afforded for comment. The Center for Auto Safety had questioned the efficacy of defect notification campaigns in Puerto Rico conducted in the English language since the primary language of that Commonwealth is Spanish. A National Highway Traffic Safety Administration (NHTSA) survey in Puerto Rico confirmed that there was a need for bilingual defect notification. It was proposed that whenever the address of the purchaser is in either the Commonwealth of Puerto Rico or the Canal Zone the notification be sent in both the English and Spanish languages.

The notice also proposed clarifying § 577.4(e) (1) so that the second paragraph of a notification letter could no longer be written to reflect a manufacturer's belief that the cause of a defect is an item other than that which he manufactured.

Only Chrysler Corporation and Firestone Tire and Rubber Company commented on bilingual notification. Both stated that it was not necessary for the Canal Zone. Firestone also felt that the requirement to translate the notification would delay its mailing, and voiced the belief that NHTSA must express the exact wording in Spanish for § 577.4(a) and (b). Chrysler commented that it had been providing bilingual notification to owners of automobiles purchased in Puerto Rico but that extensive and burdensome data-processing reprogramming would be required to identify owners of vehicles originally

purchased on the mainland and later taken to Puerto Rico.

The NHTSA believes that the language problem is a significant factor in the below-average response to notification campaigns in Puerto Rico, and that owner response rate to campaigns in the Canal Zone will improve if notifications are provided in Spanish as well as English. Information from the Census Bureau indicates that more than 50% of the residents of each area speak Spanish as their primary language. Translation may delay mailing to these areas a few days, but this is deemed inconsequential compared with the benefits to be derived by an improved response to campaigns. This agency does not consider that it need specify the exact wording in Spanish of § 577.4(a) and (b). If it appears that manufacturers are providing ambiguous statements it will consider the matter further. Finally, since section 153(a)(1) of the National Traffic and Motor Vehicle Safety Act, 15 U.S.C. 1413(a)(1), requires notification to be sent to the person who is registered under State law as the owner of the vehicle to be campaigned, Chrysler's comments on reprogramming of data do not appear to have merit.

This notice also amends § 577.4(b)(1), which presently requires the second sentence of the notification to state that the manufacturer has determined that a defect which relates to motor vehicle safety exists in its motor vehicles or motor vehicle equipment. Certain notification letters have characterized the defect as existing in a vehicle or item of equipment not manufactured by the manufacturer making the determination. The intent of the section is that a manufacturer of motor vehicles would state its determination that the defect exists in the motor vehicle it manufactures, while a manufacturer of motor vehicle equipment would state its de-

termination that the defect exists in the motor vehicle equipment it manufactures. If the manufacturer believes the cause of the defect to be an item other than that which he manufactured, that information can be imparted in the other parts of the notification, but not in the second paragraph where the content is specifically prescribed.

Kelsey-Hayes Company and Skyline Corporation commented on the proposal to clarify § 577.4(b)(1). Both objected to it, feeling that the present regulation is adequate and that the mandatory statement may be prejudicial. However, in the opinion of this agency, manufacturers with limited experience in composing notification letters have in many cases misinterpreted

§ 577.4(b)(1). Clarification of the sentence should eliminate mistakes.

In consideration of the foregoing, Part 577 of Title 49, Code of Federal Regulations, *Defect Notification*, is amended. . . .

Effective date: September 14, 1975.

(Sec. 108, 112, 113, 119, Pub. L. 89-563, 80 Stat. 718; sec. 2, 4, Pub. L. 91-265, 84 Stat. 262 (15 U.S.C. 1397, 1401, 1402, 1407); delegation of authority at 49 CFR 1.51.)

Issued on June 10, 1975.

James B. Gregory
Administrator

40 F.R. 25463
June 16, 1975

PREAMBLE TO AMENDMENT TO PART 577—DEFECT NOTIFICATION

(Docket No. 75-10; Notice 2)

This notice amends 49 CFR Part 577, "Defect Notification," to conform to §§ 151 through 160 of the National Traffic and Motor Vehicle Safety Act (the Act) (Pub. L. 93-492, 88 Stat. 1470, October 27, 1974; 15 U.S.C. 1411-1420).

The amendments of Part 577 were published as a notice of proposed rulemaking in the *Federal Register* on May 6, 1975 (40 FR 19651). Approximately 30 comments were received from vehicle and equipment manufacturers, equipment distributors, trade associations representing these groups, and the Center for Auto Safety. The National Motor Vehicle Safety Advisory Council did not take a position on this proposal. Interested persons are advised that NHTSA Dockets 75-30 (Defect and Noncompliance Responsibility), 75-31 (Petitions for Hearing on Notification and Remedy of Defects or Failure to Comply), and 74-7 (Defect and Noncompliance Reporting) are relevant to the subject matter of this rulemaking.

The agency is amending its earlier notification procedures to reflect the major expansion of manufacturer responsibilities under the Motor Vehicle and Schoolbus Safety Amendments of 1974 to notify vehicle and equipment owners or purchasers of noncompliances with safety standards and of defects that relate to motor vehicle safety (hereinafter referred to as defects), chief of which is that remedy shall be without charge in most cases.

The new regulation specifies the content, timing, and form of notification that complies with the requirements set forth in § 153 of the Act. Distinctions among notifications that arise under different circumstances are set forth in detail. Provisions concerning disclaimers in the notification and conformity to the statutory requirements are carried over from the former Part 577.

Comments on the proposal were generally in agreement with the revision of the regulation, in recognition that the revision reflects responsibilities already a matter of law. Several questions were raised with regard to the authority for or wisdom of specific provisions of the proposed regulation, and these are discussed below.

Motor vehicle manufacturers and the Motor Vehicle Manufacturers Association (MVMA) expressed strong support for modification of the statutory definitions of "original equipment" and "replacement equipment" that allocate responsibility for notification and remedy between vehicle and equipment manufacturers. The agency has issued a separate proposal to redistribute responsibility (40 FR 56930, December 5, 1975) which addresses the issues raised. Resolution of that proposal will be responsive to the issues raised by the MVMA and vehicle manufacturers. To simplify any future action in this area, the two terms are no longer set forth in Part 577.

In the definitions section of the regulation, the phrase "in good faith" has been added to the definition of "first purchaser" to conform to its meaning under § 108(b)(1) of the Act.

The Recreational Vehicle Industry Association (RVIA) requested that vehicle alterers be permitted to meet (assume) the obligations of manufacturers for notification and remedy on a voluntary basis. Without notice and opportunity for comment on this idea, the agency does not consider it wise to modify the regulation as suggested by the RVIA.

NOTIFICATION PURSUANT TO A MANUFACTURER'S DETERMINATION

Section 151 of the Act provides that a manufacturer who determines in good faith that a defect or noncompliance exists in its products

“shall furnish notification to the Secretary and to owners, purchasers, and dealers in accordance with section 153, and he shall remedy the defect or failure to comply in accordance with section 154.”

Section 577.5 of Part 577 provides for manufacturer-initiated notifications in accordance with § 151. The section specifies, among other things, that a statement appear in the notification that the manufacturer has determined that a defect or noncompliance exists in identified vehicles or equipment. An additional statement may be made to indicate that the problem may not exist in each such vehicle or item of equipment. The MVMA and American Motors Corporation (AMC) believed that a better approach would be to state that the defect or noncompliance exists in some, but not all, vehicles or items of equipment (if such is the case), and that an owner should bring his vehicle in for inspection in any case. The agency does not believe that either the MVMA or AMC has an expertise in this area and declines to adopt the suggested modification.

Paragraph (e) of § 577.5 requires a clear description of the defect or noncompliance, including, among other things,

(e) ***

(2) A description of any malfunction that may occur. The description of a noncompliance with an applicable standard shall include the difference between the performance of the noncomplying vehicle or item of replacement equipment and the performance specified by the standard;

The MVMA viewed the phrase “any malfunction” as overbroad and ambiguous, in that a manufacturer would be held to correctly anticipate a malfunction, whether or not related to safety or the noncompliance. The agency agrees that such a description would go beyond the purpose of the notification and therefore has narrowed somewhat the language proposed.

Vehicle manufacturers and the MVMA argued that the second sentence of paragraph (e)(2) should be deleted because an exact description of the difference in performance due to noncompliance would be too technical for comprehension by most owners, require extensive and expensive

testing in some cases that would delay notification, and be the basis for a technical violation of the regulation. The agency believes that the description is valuable to vehicle or equipment owners in understanding the noncompliance, but agrees that a detailed description could delay notification unnecessarily. Accordingly, the phrase “in general terms” is added to modify the required description.

The Center for Auto Safety (the Center) believed that the statement required by (e) to minimize the chances of an accident before remedy failed to mention prior warnings that the vehicle’s operating characteristics might offer. While prior warning is adequately covered by the “evaluation of risk” statement made regarding the possibility of vehicle crash (paragraph (f)(1)(ii)), the agency has added a comparable requirement to paragraph (f)(2) (that covers “non-crash” type defects and non-compliances).

The Specialty Equipment Manufacturers Association objected that any evaluation of the risk to motor vehicle safety would be speculative and therefore was unjustified. This requirement, however, is based on the specific requirement of § 153(a) of the Act, and cannot be eliminated.

The Center believed that the evaluation of risk to motor vehicle safety is a discretionary statement that need not be made by a manufacturer. This is not the case. Section 577.5 is a requirement that the information (b) through (g) be listed and, under paragraph (f), the evaluation must either describe the crash hazard or be a description of the “general type of injury to occupants, or [others], that can result.”

Paragraph (g) of § 577.5, dealing with measures to be taken by the owner, proved to be the greatest source of comments on the proposal. The paragraph is divided into subparagraphs dealing with notification of remedy without charge and notification of remedy for which the manufacturer will charge. This distinction is based on § 154(a)(4) of the Act which limits the “remedy without charge” to vehicles or equipment first purchased no more than 8 years (3 years in the case of tires) before notification in accordance with §§ 151 or 152.

Paragraph (g)(1) specifies requirements both for notification when the remedy must be under-

taken and also notification when the manufacturer voluntarily decides to remedy without charge. The MVMA and General Motors (GM) felt that manufacturers undertaking voluntary remedy should not be subjected to the same notification requirements as those manufacturers required to remedy. The agency distinguishes between the separate duties of notification and remedy, however, and notes that the notification requirements of § 153 of the Act contain no exceptions for older vehicles and equipment. The MVMA's abbreviated list of requirements for a voluntary remedy do not fulfill the requirements of § 153. For example, § 153(a)(2) requires that the notification contain an evaluation of the risk to motor vehicle safety.

It is the agency's philosophy that a manufacturer undertaking a remedy should provide the same information to the owner whether or not the remedy is undertaken voluntarily. In this way, an owner will be apprised of the information necessary to make informed decision. Also, events beyond the manufacturer's control will not be able to negate the remedy without agency or manufacturer's knowledge. For these reasons, the agency does not modify the requirements as suggested.

Aside from the general suitability of paragraph (g)(1)'s requirements for a voluntary remedy, manufacturers raised more specific questions about the separate provisions.

International Harvester Company (IH) asserted with regard to paragraph (g)(1)(i) that no basis existed for the exception of replacement equipment from the right to refund as a means of remedy. In the agency's view, § 154(2)(B) of the Act clearly limits the remedy for items of replacement equipment to either repair or replacement.

IH objected to the requirements that the earliest date for repair set under paragraph (g)(1)(ii) be premised on anticipated receipt by dealers of necessary parts for repair. The company pointed out that some repair parts would not typically be forwarded to a dealer for repair until a specific request has arisen. The agency would like to clarify that the "earliest date" can be established as a certain number of days following inspection of the defective or noncomply-

ing vehicle. Thus a manufacturer need only calculate the time that it would take to get the parts to the dealer following an inspection and then state that the earliest date for repair will follow the date of inspection by that amount.

AMC argued that the requirement for a general description of the work and amount of time involved in a repair without charge by the manufacturer's dealer exceeded the authority of the Act and is unnecessary when the manufacturer undertakes repair. The same argument was made with regard to paragraphs (g)(1)(v) and (vi). The agency disagrees, and notes that the specific authority listed in § 153(a) is "in addition to such other matters as the Secretary may prescribe by regulation." As for the need for a general description, it is concluded that the owner would value knowledge of the time involved and the nature of the repair that is involved, to correctly weigh the gravity of the problem. Correspondingly, the offer of replacement or refund is more helpful to the owner if it includes the detail that has been specified.

In paragraph (g)(1)(iv), the MVMA asked for parallelism with the construction of paragraph (g)(1)(iii). It is accomplished by the addition of "or its dealers" following the word "manufacturer." IH suggested the addition of "authorized service centers" to the list, but this is unnecessary in view of the NHTSA's interpretation of "dealer" to include an authorized service center.

The Center, Mack Trucks, and Crane Carrier Corporation (CCC) commented on paragraph (g)(1)(iv)'s requirement that the method or basis for a manufacturer's assessment of depreciation be specified. The two manufacturers suggested use of a retailer's price guide as the basis. The Center suggested that a method for determination of depreciation be devised by a panel of industry, government, and consumer representatives. The legislative history indicates that retailer price guides should not be the sole criterion, and thus the Mack and CCC recommendations are not adopted. Until there is some indication that the manufacturers' chosen methods of assessment are unreasonable, the agency does not consider it necessary to exercise its authority in this area, and the Center's suggestion is also not adopted.

The greatest objections were raised regarding the statement advising an owner how to inform the NHTSA if he believes that the notification or remedy is inadequate, or that the remedy was untimely or not made in accordance with the notification. PACCAR, AMC, Chrysler, GM, IH, the RVIA, and the MVMA considered the statement to be, in some respects, beyond the agency's statutory authority and not contemplated by Congress. As earlier noted, § 153 is prefaced by a general grant of authority to the agency to specify the contents of the notification.

The agency has considered the objections, in any case, particularly in view of the decision to require the same notification in the case of voluntary and mandatory remedy notices. It is concluded that modification of the statements to reflect the exact terms of § 154(a)(6) is appropriate.

Manufacturers objected to the language of paragraph (g)(1)(vii)(C) that invites owner complaints if a remedy is not effected within a reasonable period. The agency considers timeliness to be an aspect of whether a manufacturer has failed or is unable to provide a remedy as specified in § 153(a)(6) of the Act. The agency does agree that remedy by replacement or refund should not be limited to the first 60 days, since it might follow a failure to repair within that 60-day period. In conforming to § 154(b)(1), the agency substitutes "tender" for "first attempt." Also reference to extension by the Administrator of the 60-day repair period has been added to paragraph (g)(1)(vii)(C)(1).

GM suggested that an additional statement be made to owners, advising them of recourse available with the manufacturer if the dealer's response is unsatisfactory. The agency considers this desirable but, without the benefit of notice and opportunity for comment, declines to make this addition. Paragraph (g)(1), of course, only sets forth what the manufacturer "shall include" in its notification, and it may make such additional statements as it deems necessary.

There was no comment on the second part of § 577.5 that deals with manufacturer notices in which remedy without charge is not required and is not volunteered. Accordingly, the paragraph is adopted as proposed.

NOTIFICATION PURSUANT TO ADMINISTRATOR'S DETERMINATION

Section 577.6 provides for Administration-ordered notifications in accordance with § 152. Paragraphs (a), (b), and (c) set forth requirements for the three types of notification contemplated by the Act. Manufacturers made no comment on the requirements for notification ordered by the Administrator in the first instance, and paragraph (a) is accordingly made final as proposed.

PACCAR objected to provisional notification as placing an unreasonable burden on the manufacturer, rendering any court decision in its favor meaningless. Section 155(b) of the Act clearly contemplates such an order, however, and the regulations consequently do provide for it.

Comments were received on the proposed content of the provisional notification. The MVMA pointed out that the requirement in paragraph (b)(2) should be clarified to permit a statement that the defect or non-compliance may not occur in all the described vehicles. The agency agrees and adds a paragraph similar to § 577.5(d).

With regard to the proposed paragraph (b)(4), the MVMA asked that reference to a "United States District Court" be broadened to "the Federal courts" and that the statement make clear that the NHTSA and not the court is ordering provisional notification. The agency concurs in these clarifications and they are made where appropriate in the final rule.

The requirements of paragraphs (b)(5), (6), and (7) provide for a description of the Administrator's determination, his evaluation of the hazard, and the recommended measures to avoid unreasonable hazard resulting from the defect or noncompliance. Fiat requested that the description, evaluation, and recommended measures be provided by the NHTSA. As specified in the requirements, it is the "Administrator's stated basis" that must be described, and the measures "stated in his order" that must be listed. The agency intends to include in each order a description, evaluation, and list of measures that permit quotation or paraphrase by the manufacturer.

Chrysler and the MVMA asked that a manufacturer be permitted more latitude to explain

its position than provided for in paragraph (b)(8). The agency has considered this request, and concludes that extensive advocacy of the manufacturer's position would detract from the intent of the provisional notification to put the owner on notice of potential problems. The Chrysler and MVMA suggestion is therefore not adopted.

In the required statement dealing with availability of remedy and reimbursement in the event the court upholds the Administrator's determination (paragraph (b)(9)), Chrysler argued that the suggestion of reimbursement would generate poor customer relations if a repair were sought or undertaken during pendency of a court proceeding in which the manufacturer prevailed. The agency is aware of the possibility for some misunderstanding but is certain that the provisional notification was intended by the Congress to encourage owners to consider repair or other corrective action while the manufacturer contests the determination. For this reason, the notice of possible reimbursement remains in the regulation. The first statement in (b)(9)(i) has been clarified in one minor respect.

The MVMA requested that the phrase "for repair" be substituted for "in repairing" to permit manufacturers to make clear that reimbursement would only cover the repairs that were reasonable and necessary to correct the defect or noncompliance. The NHTSA believes that the term "reasonable and necessary" makes clear what repairs would be reimbursed should the court uphold an Administrator's determination.

The MVMA asked, and the agency agrees, that the reimbursement statement be qualified by the limitations that appear in the statute.

Paragraph (b)(10) requires a statement whether, in the manufacturer's opinion, a repair of the defect or noncompliance is possible. GM asked that "feasible" be substituted for "possible" and the agency makes the change in agreement that it more clearly reflects the judgement made by a manufacturer in choosing its preferred remedy. The MVMA and Chrysler made the more basic objection that (b)(10) assumes that a defect or noncompliance exists prior to the court's ruling, and that it requires unjustified effort to develop repair parts and facilities before a decision is reached on the validity of the Ad-

ministrator's determination. The agency is of the view that the level of detail specified is justified in these cases and necessary to fulfill the purpose of provisional notification contemplated by Congress. The agency has modified the wording to make clear that reimbursement for expenses are limited to those necessary and reasonable for repair.

With regard to proposed paragraph (b)(12), the MVMA asked that only notification and not remedy be mentioned. There will be a discussion of remedy in the notification, however, and the owner should be encouraged to inquire further as to this aspect of the notification.

Firestone and the Automotive Parts and Accessories Association felt that the regulations should apply to the agency and that it should be required to advise the owner, purchaser, and dealer in the event its determination is not upheld by the courts. The statutory scheme being implemented by Part 577 concerns manufacturer obligations under §§ 151 through 160 of the Act to notify and remedy safety problems in vehicles. The agency does not consider an expansion of the regulations beyond this purpose as appropriate. Nothing, of course, prevents the manufacturer from making such a notice to the owner or others.

Paragraph (c) of § 577.6 deals with final notification following a court decision in the Administrator's favor, and it is adopted, with corrections similar to those made in the other sections. Because the MVMA objected to reference to being "upheld in a proceeding in a United States District Court" as the basis for the post-litigation order, the agency has substituted the language of the Act. Also, reference to "a date" on which provisional notification was ordered is corrected to "the date" to reflect that it will in all cases be a specific date.

TIME AND MANNER OF NOTIFICATION

The major problem with regard to the time and manner of notification concerned the statutory requirement (§ 153(c)(1)) that notification be,

§ 153 * * *

(c) * * *

(1) in the case of a motor vehicle, by first class mail to each person who is registered

under State law as the owner of such vehicle and whose name and address is reasonably ascertainable by the manufacturer through State records or other sources available to him;

PACCAR, Volkswagen, and IH expressed their doubts that all State records would be available or that alternative services would provide timely information. The agency has incorporated the statutory requirements in this regulation word-for-word and, on that basis, declines to modify it. As for the suggestion that "reasonably ascertainable" be defined, it is the agency's view that the phrase is only given meaning by the separate factual situations that arise. The agency cannot agree with PACCAR that records are not "reasonably ascertainable" simply by virtue of delay in retrieving them.

Sheller-Globe Corporation asked if certified mail would be considered the equivalent of first class mail for meeting the requirements. As a school bus manufacturer, Sheller-Globe wanted certainty of notification to school districts and other customers. The NHTSA does not consider them equivalent in view of relevant legislative history. Congress considered the U.S. Postal Service regulation that prohibits forwarding of certified mail and they concluded that first class mail would be a superior means of obtaining notification.

With regard to the maximum times permitted for issuance of notification, the Center asked that the period be reduced to 30 days in the case of all Administration-ordered notifications. Some manufacturers asked that the 30-day period for provisional notification be expanded to 60 days. B.F. Goodrich stated that notification letters cannot be printed in advance of actual mailing, because the date for earliest remedy must be included in the letter. The agency has weighed the conflicting views, and concludes that a 60-day period is justified for administration-ordered recalls. The provisional notification requirement is amended accordingly.

IH suggested that public notice of defects or noncompliances in items of replacement equipment would be adequate, and that notice to the most recent purchaser should be optional. The

agency has simply conformed its regulation to the statutory requirements of § 153(c).

OTHER MATTERS

The MVA suggested that the disclaimer section of the regulation could be clarified by an additional paragraph permitting manufacturer statements that a notification does not "constitute an admission by the manufacturer that it has been guilty of negligence or other wrong doing." The agency views this statement as exactly the type of disclaimer that could contribute to a reader's decision not to take action in response to notification and accordingly declines to adopt the MVMA recommendation.

With regard to the MVMA concern that technical violations of the regulations not be pursued as a violation of the Act under § 577.9, the agency expects to continue to enforce the Act and its regulations in a reasonable manner, calculated to avoid arbitrariness or irrationality.

After-market equipment manufacturers and their associations expressed the view that the notification scheme was unworkable for notice to equipment purchasers, that wear of parts in normal use conflicted with the concept of safety-related defects, and that the 8-year period for remedy without charge was too long. Also, the establishment of a cut-off based on the date of retail sale appeared impractical, because records of these transactions are not maintained. As a response, the agency notes that the regulation conforms to the statute's language and clearly expressed Congressional intent. Experience to date with the requirements does not demonstrate that they are in fact unworkable. The issues of improper installation and remanufactured parts were not addressed by the statute, and resolution of these issues will require some experience with situations as they arise.

The RVIA asked that the agency exercise its authority to require the submission to manufacturers by dealers of the names and addresses of purchasers. The agency takes this recommendation under advisement but, as it is beyond the scope of Part 577, does not act on it in this notice.

In consideration of the foregoing, Part 577, "Defect Notification," of Title 49, Code of Fed-

eral Regulations, is renamed "Defect and Non-compliance Notification" and is amended to read as set forth below.

Effective date: June 28, 1977.

(Secs. 108, 112, 119, Pub. L. 89-563, 80 Stat. 718; Sec. 102, 103, 104, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1397, 1401, 1407, 1411-1420; delegation of authority at 49 CFR 1.50)

Issued on December 22, 1976.

John W. Snow
Administrator

41 F.R. 56813
December 30, 1976

PREAMBLE TO AN AMENDMENT TO PART 577

Defect and Noncompliance Notification (Docket No. 80-17; Notice 1)

ACTION: Final rule.

SUMMARY: This notice amends the defect and non-compliance notification regulation to require that manufacturers include the agency's toll free Auto Safety Hotline number in their defect and non-compliance notification letters. The amendment is being made to provide a means of easy access to the agency by consumers who may have complaints about the recall and remedy of their vehicles or equipment. Since it is a minor technical amendment, it is being made effective immediately without notice or opportunity for comment.

EFFECTIVE DATE: January 22, 1981.

FOR FURTHER INFORMATION CONTACT:

Mr. James Murray, Office of Defects Investigation, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590, 202-426-2840

SUPPLEMENTARY INFORMATION: This notice makes a minor technical amendment to Part 577, Defect and Noncompliance Notification, to require manufacturers conducting recall campaigns to include the agency's toll free Auto Safety Hotline number in the notification letters.

Existing notification letters are required to state that a consumer may contact the agency if he or she feels that remedy of a defect or non-compliance is not being made without charge or in a reasonable time. Manufacturers also frequently include their address and a toll free number that consumers can call to complain to the manufacturer about the status of a remedy. The agency believes that the use of manufacturer toll free numbers is a good idea and has decided that the agency's toll free number should also be included

in the letter. This will provide easy access for consumers to the agency for reporting any complaints concerning the recall or remedy of their vehicles. It also will provide timely information to our Enforcement office pertaining to the compliance with our regulations by the manufacturers.

Since this is a minor technical amendment and will result in little impact upon manufacturers, the agency finds for good cause shown that it is in the interest of safety to make the amendment effective immediately without notice and opportunity for comment.

In consideration of the foregoing, Title 49 of the Code of Federal Regulations, Part 577, Defect and Noncompliance Notification, is amended by revising the introductory sentence in paragraph 577.5(g)(1)(vii) to read as follows:

(vii) A statement informing the owner that he or she may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 or call the toll free Auto Safety Hotline at 800-426-9393 (Washington, D.C. area residents may call 426-0123), if the owner believes that—

* * * *

The principal authors of this notice are Mr. James Murray of the Office of Defects Investigations and Roger Tilton of the Office of Chief Counsel.

Issued on January 14, 1981.

Joan Claybrook
Administrator

46 FR 6971
January 22, 1981

PART 577—DEFECT AND NONCOMPLIANCE NOTIFICATION

(Docket No. 72-7; Notice 2)

Sec.

577.1 Scope.

577.2 Purpose.

577.3 Application.

577.4 Definitions.

577.5 Notification pursuant to a manufacturer's determination.

577.6 Notification pursuant to the Administrator's determination.

577.7 Time and manner of notification.

577.8 Disclaimers.

577.9 Conformity to statutory requirements.

AUTHORITY: Secs. 108, 112, 119, Pub. L. 89-563; 80 Stat. 718; Secs. 102, 103, 104, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1397, 1401, 1408, 1411-1420; delegations of authority at 49 CFR 1.51 and 49 CFR 501.8)

§ 577.1 Scope.

This part sets forth requirements for notification to owners of motor vehicles and replacement equipment about the possibility of a defect which relates to motor vehicle safety or a non-compliance with a Federal motor vehicle safety standard.

§ 577.2 Purpose.

The purpose of this part is to ensure that notifications of defects or noncompliances adequately inform and effectively motivate owners of potentially defective or noncomplying motor vehicles or items of replacement equipment to have such vehicles or equipment inspected and, when necessary, remedied as quickly as possible.

§ 577.3 Application.

This part applies to manufacturers of completed motor vehicles, incomplete motor vehicles, and replacement equipment. In the case of vehicles manufactured in two or more stages, compliance by either the manufacturer of the incomplete vehicle, any subsequent manufacturer, or the manufacturer of affected replacement equipment shall be considered compliance by each of those manufacturers.

§ 577.4 Definitions.

For purposes of this part:

“Act” means the National Traffic and Motor Vehicle Safety Act of 1966, as amended, 15 U.S.C. 1391 et seq.

“Administrator” means the Administrator of the National Highway Traffic Safety Administration or his delegate.

“First purchaser” means the first purchaser in good faith for a purpose other than resale.

“Owners” include purchaser.

§ 577.5 Notification pursuant to a manufacturer's determination.

(a) When a manufacturer of motor vehicles or replacement equipment determines that any motor vehicle or item of replacement equipment produced by him contains a defect which relates to motor vehicle safety, or fails to conform to an applicable Federal motor vehicle safety standard, he shall provide notification in accordance with paragraph (a) of § 577.7, unless the manufacturer is exempted by the Administrator (pursuant to section 157 of the Act) from giving such notification. The notification shall contain the information specified in this section. The information required by paragraphs (b) and (c) of this section shall be presented in the form and order specified. The information required

by paragraphs (d) through (g) of this section may be presented in any order. Notification sent to an owner whose address is in either the Commonwealth of Puerto Rico or the Canal Zone shall be written in both English and Spanish.

(b) An opening statement: "This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act."

(c) Whichever of the following statements is appropriate:

(1) "(Manufacturer's name or division) has determined that a defect which relates to motor vehicle safety exists in (identified motor vehicles, in the case of notification sent by a motor vehicle manufacturer; identified replacement equipment, in the case of notification sent by a replacement equipment manufacturer);" or

(2) "(Manufacturer's name or division) has determined that (identified motor vehicles, in the case of notification sent by a motor vehicle manufacturer; identified replacement equipment, in the case of notification sent by a replacement equipment manufacturer) fail to conform to Federal Motor Vehicle Safety Standard No. (number and title of standard)."

(d) When the manufacturer determines that the defect or noncompliance may not exist in each vehicle or item of replacement equipment, he may include an additional statement to that effect.

(e) A clear description of the defect or noncompliance, which shall include—

(1) An identification of the vehicle system or particular item(s) of motor vehicle equipment affected.

(2) A description of the malfunction that may occur as a result of the defect or noncompliance. The description of a noncompliance with an applicable standard shall include, in general terms, the difference between the performance of the noncomplying vehicle or item of replacement equipment and the performance specified by the standard;

(3) A statement of any operating or other conditions that may cause the malfunction to occur; and

(4) A statement of the precautions, if any, that the owner should take to reduce the chance that the malfunction will occur before the defect or noncompliance is remedied.

(f) An evaluation of the risk to motor vehicle safety reasonably related to the defect or noncompliance.

(1) When vehicle crash is a potential occurrence, the evaluation shall include whichever of the following is appropriate:

(i) A statement that the defect or noncompliance can cause vehicle crash without prior warning; or

(ii) A description of whatever prior warning may occur, and a statement that if this warning is not heeded, vehicle crash can occur.

(2) When vehicle crash is not a potential occurrence, the evaluation must include a statement indicating the general type of injury to occupants of the vehicle, or to persons outside the vehicle, that can result from the defect or noncompliance, and a description of whatever prior warning may occur.

(g) A statement of measures to be taken to remedy the defect or noncompliance, in accordance with paragraph (g)(1) or (g)(2) of this section, whichever is appropriate.

(1) When the manufacturer is required by the Act to remedy the defect or noncompliance without charge, or when he will voluntarily so remedy in full conformity with the Act, he shall include—

(i) A statement that he will cause such defect or noncompliance to be remedied without charge, and whether such remedy will be by repair, replacement, or (except in the case of replacement equipment) refund, less depreciation, of the purchase price.

(ii) The earliest date on which the defect or noncompliance will be remedied without charge. In the case of remedy by repair, this date shall be the earliest date on which the manufacturer reasonably expects that dealers or other service facilities will receive necessary parts and instructions. The manufacturer shall specify the last date, if any,

on which he will remedy tires without charge.

(iii) In the case of remedy by repair through the manufacturer's dealers or other service facilities:

(A) A general description of the work involved in repairing the defect or non-compliance; and

(B) The manufacturer's estimate of the time reasonably necessary to perform the labor required to correct the defect or non-compliance.

(iv) In the case of remedy by repair through service facilities other than those of the manufacturer or its dealers:

(A) The name and part number of each part that must be added, replaced, or modified;

(B) A description of any modifications that must be made to existing parts which shall also be identified by name and part number;

(C) Information as to where needed parts will be available;

(D) A detailed description (including appropriate illustrations) of each step required to correct the defect or noncompliance;

(E) The manufacturer's estimate of the time reasonably necessary to perform the labor required to correct the defect or non-compliance; and

(F) The manufacturer's recommendations of service facilities where the owner should have the repairs performed.

(v) In the case of remedy by replacement, a description of the motor vehicle or item of replacement equipment that the manufacturer will provide as a replacement for the defective or noncomplying vehicle or equipment.

(vi) In the case of remedy by refund of purchase price, the method or basis for the manufacturer's assessment of depreciation.

(vii) A statement informing the owner that he or she may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 or call the toll-free Auto Safety Hotline at 800-424-9393 (Washington D.C. area residents may call 426-0123), if the owner believes that—

(A) The manufacturer, distributor, or dealer has failed or is unable to remedy the defect or noncompliance without charge.

(B) The manufacturer has failed or is unable to remedy the defect or noncompliance without charge—

(1) (In the case of motor vehicles or items of replacement equipment, other than tires) within a reasonable time, which is not longer than 60 days in the case of repair after the owner's first tender to obtain repair following the earliest repair date specified in the notification, unless the period is extended by the Administrator.

(2) (In the case of tires) after the date specified in the notification on which replacement tires will be available.

(2) When the manufacturer is not required to remedy the defect or noncompliance without charge and he will not voluntarily so remedy, the statement shall include—

(i) A statement that the manufacturer is not required by the Act to remedy without charge.

(ii) A statement of the extent to which the manufacturer will voluntarily remedy, including the method of remedy and any limitations and conditions imposed by the manufacturer on such remedy.

(iii) The manufacturer's opinion whether the defect or noncompliance can be remedied by repair. If the manufacturer believes that repair is possible, the statement shall include the information specified in paragraph (g) (1) (iv) of this section, except that—

(A) The statement required by paragraph (g) (1) (iv) (A) of this section shall also indicate the suggested list price of each part.

(B) The statement required by paragraph (G) (1) (iv) (C) of this section shall also indicate the manufacturer's estimate of the date on which the parts will be generally available.

§ 577.6 Notification pursuant to Administrator's determination.

(a) *Manufacturer-ordered-notification.* When a manufacturer is ordered pursuant to section 152 of the Act to provide notification of a defect or noncompliance, he shall provide such notification in accordance with §§ 577.5 and 577.7, except that the statement required by paragraph (c) of § 577.5 shall indicate that the determination has been made by the Administrator of the National Highway Traffic Safety Administration.

(b) *Provisional notification.* When a manufacturer does not provide notification as required by paragraph (a) of this section, and an action concerning the Administrator's order to provide such notification has been filed in a United States District Court, the manufacturer shall, upon the Administrator's further order, provide in accordance with paragraph (b) of § 577.7 a provisional notification containing the information specified in this paragraph, in the order and, where specified, the form of paragraphs (b)(1) through (b)(12) of this section.

(1) An opening statement: "This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act."

(2) Whichever of the following statements is appropriate:

(i) "The Administrator of the National Highway Traffic Safety Administration has determined that a defect which relates to motor vehicle safety exists in (identified motor vehicles, in the case of notification sent by a motor vehicle manufacturer; identified replacement equipment, in the case of notification sent by a replacement equipment manufacturer);" or

(ii) "The Administrator of the National Highway Traffic Safety Administration has determined that (identified motor vehicles, in the case of notification sent by a motor vehicle manufacturer; identified replacement equipment, in the case of notification sent by a replacement equipment manufacturer) fail to conform to Federal Vehicle Safety Standard No. (number and title of standard)."

(3) When the Administrator determines that the defect or noncompliance may not exist in each such vehicle or item of replacement equipment, the manufacturer may include an additional statement to that effect.

(4) The statement: "(Manufacturer's name or division) is contesting this determination in a proceeding in the Federal courts and has been required to issue this notice pending the outcome of the court proceeding."

(5) A clear description of the Administrator's stated basis for his determination, as provided in this order, including a brief summary of the evidence and reasoning that the Administrator relied upon in making his determination.

(6) A clear description of the Administrator's stated evaluation as provided in his order of the risk to motor vehicle safety reasonably related to the defect or noncompliance.

(7) Any measures that the Administrator has stated in his order should be taken by the owner to avoid an unreasonable hazard resulting from the defect or noncompliance.

(8) A brief summary of the evidence and reasoning upon which the manufacturer relies in contesting the Administrator's determination.

(9) A statement regarding the availability of remedy and reimbursement in accordance with paragraph 9(i) or 9(ii) below, whichever is appropriate.

(i) When the purchase date of the vehicle or item of equipment is such that the manufacturer is required by the Act to remedy without charge or to reimburse the owner for reasonable and necessary repair expenses, he shall include—

(A) A statement that the remedy will be provided without charge to the owner if the Court upholds the Administrator's determination.

(B) A statement of the method of remedy. If the manufacturer has not yet determined the method of remedy, he shall indicate that he will select either repair, replacement with an equivalent vehicle or item of replacement equipment, or (except

in the case of replacement equipment) refund, less depreciation, of the purchase price; and

(C) A statement that, if the Court upholds the Administrator's determination, he will reimburse the owner for any reasonable and necessary expenses that the owner incurs (not in excess of any amount specified by the Administrator) in repairing the defect or noncompliance following a date, specified by the manufacturer, which shall not be later than the date of the Administrator's order to issue this notification.

(ii) When the manufacturer is not required either to remedy without charge or to reimburse, he shall include—

(A) A statement that he is not required to remedy or reimburse, or

(B) A statement of the extent to which he will voluntarily remedy or reimburse, including the method of remedy if then known, and any limitations and conditions on such remedy or reimbursement.

(10) A statement indicating whether, in the manufacturers opinion, the defect or noncompliance can be remedied by repair. When the manufacturer believes that such remedy is feasible, the statement shall include:

(i) A general description of the work and the manufacturer's estimate of the costs involved in repairing the defect or noncompliance;

(ii) Information on where needed parts and instructions for repairing the defect or noncompliance will be available, including the manufacturer's estimate of the day on which they will be generally available;

(iii) The manufacturer's estimate of the time reasonably necessary to perform the labor required to correct the defect or noncompliance; and

(iv) The manufacturer's recommendations of service facilities where the owner could have the repairs performed, including (in the case of a manufacturer required to reimburse if the Administrator's determination is upheld in the court proceeding) at least

one service facility for whose charges the owner will be fully reimbursed if the Administrator's determination is upheld.

(11) A statement that further notice will be mailed by the manufacturer to the owner if the Administrator's determination is upheld in the court proceeding; and

(12) An address of the manufacturer where the owner may write to obtain additional information regarding the notification and remedy.

(c) *Post-litigation notification.* When a manufacturer does not provide notification as required in paragraph (a) of this section and the Administrator prevails in an action commenced with respect to such notification, the manufacturer shall, upon the Administrator's further order, provide notification in accordance with paragraph (b) of § 577.7 containing the information specified in paragraph (a) of this section, except that—

(1) The statement required by paragraph (c) of § 577.5 shall indicate that the determination has been made by the Administrator and that his determination has been upheld in a proceeding in the Federal courts; and

(2) When a provisional notification was issued regarding the defect or noncompliance and the manufacturer is required under the Act to reimburse—

(i) The manufacturer shall state that he will reimburse the owner for any reasonable and necessary expenses that the owner incurred (not in excess of any amount specified by the Administrator) for repair of the defect or noncompliance of the vehicle or item of equipment on or after the date on which provisional notification was ordered to be issued and on or before a date not sooner than the date on which this notification is received by the owner. The manufacturer shall determine and specify both dates.

(ii) The statement required by paragraph (g)(1)(vii) of § 577.5 shall also inform the owner that he may submit a complaint to the Administrator if the owner believes that the manufacturer has failed to reimburse adequately.

(3) If the manufacturer is not required under the Act to reimburse, he shall include—

(i) A statement that he is not required to reimburse, or

(ii) When he will voluntarily reimburse, a statement of the extent to which he will do so, including any limitations and conditions on such reimbursement.

§ 577.7 Time and manner of notification.

(a) The notification required by § 577.5 shall—

(1) Be furnished within a reasonable time after the manufacturer first determines the existence of a defect which relates to motor vehicle safety, or of a noncompliance.

(2) Be accomplished—

(i) In the case of a notification required to be sent by a motor vehicle manufacturer, by first class mail to each person who is registered under State law as the owner of the vehicle and whose name and address are reasonably ascertainable by the manufacturer through State records or other sources available to him. If the owner cannot be reasonably ascertained, the manufacturer shall notify the most recent purchaser known to the manufacturer.

(ii) In the case of a notification required to be sent by a replacement equipment manufacturer—

(A) By first class mail to the most recent purchaser known to the manufacturer, and

(B) (Except in the case of a tire) if determined by the Administrator to be necessary for motor vehicle safety, by public notice in such manner as the Administrator may determine after consultation with the manufacturer.

(iii) In the case of a manufacturer required to provide notification concerning any defective or noncomplying tire, by first class or certified mail.

(b) The notification required by any paragraph of § 577.6 shall be provided:

(1) Within 60 days after the manufacturer's receipt of the Administrator's order to provide the notification, except that the notification shall be furnished within a shorter or longer period if the Administrator incorporates in his order a finding that such period is in the public interest; and

(2) In the manner and to the recipients specified in paragraph (a) of this section.

§ 577.8 Disclaimers.

(a) A notification sent pursuant to § 577.5 or § 577.6 regarding a defect which relates to motor vehicle safety shall not, except as specifically provided in this part, contain any statement or implication that there is no defect, that the defect does not relate to motor vehicle safety, or that the defect is not present in the owner's vehicle or item of replacement equipment.

(b) A notification sent pursuant to § 577.5 or § 577.6 regarding a noncompliance with an applicable Federal motor vehicle safety standard shall not, except as specifically provided in this part, contain any statement or implication that there is not a noncompliance or that the noncompliance is not present in the owner's vehicle or item of replacement equipment.

§ 577.9 Conformity to statutory requirements.

A notification that does not conform to the requirements of this part is a violation of the Act.

38 F.R. 2215
January 23, 1973

PREAMBLE TO PART 579—DEFECT AND NONCOMPLIANCE RESPONSIBILITY**(Docket No. 75-30; Notice 2)**

This notice issues a new regulation, Part 579, *Defect and Noncompliance Responsibility*. The purpose of the regulation is to allocate between motor vehicle and equipment manufacturers the responsibilities under the 1974 Motor Vehicle and Schoolbus Safety Amendments for recalling and remedying defective or noncomplying motor vehicles and equipment. The regulation makes tire manufacturers responsible for original equipment tires as well as tires sold as replacement equipment. Otherwise, the regulation adopts the responsibility scheme in the 1974 Amendments. With this notice, the agency defers final action on its proposal concerning the responsibilities of original equipment manufacturers that supply equipment to five or more vehicle manufacturers. Effective date: September 30, 1978.

Addresses: Petitions for reconsideration should refer to the docket number and be submitted to: Room 5108, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590.

For further information contact:

Mr. James Murray, Office of Defects Investigation, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-2840).

This notice issues a new regulation, Part 579, *Defect and Noncompliance Responsibility*. A notice of proposed rulemaking was published on December 5, 1975 (40 F.R. 56930) proposing some reallocation between motor vehicle and equipment manufacturers of the responsibilities for safety-related defects and noncompliances with safety standards. These responsibilities include the duty to notify purchasers of any safety-related defects or noncompliances with safety standards and to make remedy without charge to the purchaser. Currently, the allocation of defect and noncompliance responsibility is governed by section 159(2) of the National Traffic

and Motor Vehicle Safety Act of 1966, as amended, (the Act) (15 U.S.C. 1419(2)).

The Act authorizes the agency to allocate equitably responsibility for defects and noncompliances between equipment and vehicle manufacturers. The substance of the agency's 1975 NPRM was to shift the burdens of compliance somewhat from the vehicle to the equipment manufacturer. As the NPRM on this issue stated, the legislative history of the Act indicates that the Congress intended for the agency to ensure that its defect and noncompliance regulations reflect the realities of the relationship between equipment and vehicle manufacturers.

Comments were received from equipment and vehicle manufacturers and from their representatives. All comments were considered. The Vehicle Equipment Safety Commission did not submit comments.

General Motors Corporation suggested that section 579.1 be changed to indicate that the regulation applies only to Part B of the Act, Discovery, notification, and remedy of motor vehicle defects, not to Part A, General provisions. Since this regulation exercises the authority granted by section 159 of the Act and that section specifically states that it applies only to Part B of the Act, the agency has incorporated GM's recommended change.

The Midland Ross Corporation suggested that the agency add several minor definitions to the list of definitions. They suggested, for example, that the agency define phrases such as "an item of motor vehicle equipment," and "an item of defective or noncomplying equipment."

With respect to "motor vehicle equipment," the agency notes that the term is defined in the Act at section 102(4). Since the agency does not intend to alter that definition, the term is not defined in this section.

"Defective and noncomplying equipment" also does not require definition for purposes of this section, since "noncomplying equipment" obviously means equipment that does not comply with an applicable Federal motor vehicle safety standard. "Defective equipment," on the other hand, cannot be defined in a fashion that would be appropriate for all cases. Whether equipment is defective in a manner that requires action under the Act would depend upon the type of the equipment involved as well as the nature and extent of the defect. As such, "defective" is a legal determination made on a case-by-case basis and the term, therefore, cannot be absolutely defined in advance.

Many manufacturers complained about NHTSA's definition of "original equipment." The Eaton and Bendix Corporations, for example, indicated that they thought NHTSA had violated its authority to issue regulations with respect to this term. They suggested that section 159 does not grant sufficient latitude for the agency to alter the Act's definitions to the extent found in the regulation. The agency disagrees. The language in section 159, "Except as otherwise provided in regulations of the Secretary," and the legislative history of that section very clearly permit the agency to modify the definitions of section 159 of the Act if the agency determines that it would be in the interest of an equitable distribution of enforcement responsibilities upon the various manufacturers. In this instance, the agency has determined that the minor definitional changes included in this regulation will better meet the needs of both the agency and the manufacturers for efficient recalls and remedies.

Several commenters questioned the term "express authorization" as it is used in Part 579.4 (a)(2). The agency stated in the NPRM preamble that express authorization was not limited to written authorization and that "any type of express authorization given by the vehicle manufacturer for the installation of equipment should be sufficient to make the manufacturer responsible for that equipment." The preamble went on to state that "what constitutes adequate authorization will depend upon the facts of each case." Since the issuance of the preamble, nothing has occurred that leads to a simplified defini-

tion of the term "express authorization." Therefore, the agency declines to adopt a definition for this term and restates that it depends upon the circumstances of each case.

Several commenters indicated that proposed paragraph (1) under section 579.4(a) was overbroad in that it required a vehicle manufacturer to be responsible for equipment manufactured by him even when that equipment was not installed by him or at his direction. NHTSA agrees with these commenters and has deleted paragraph (1) from that section and renumbered the section accordingly.

Section 579.4(b) defines "replacement equipment" to include tires. The commenters on this paragraph, Goodyear and Firestone, agreed with this definition. They stated that they thought it appropriate for tire manufacturers to be responsible for defects and noncompliances in their equipment.

With respect to the application of this regulation to the tire manufacturers, several misunderstandings occurred. Fruehauf Corporation indicated that the fabricating manufacturer of a tire should be the one responsible for the recall of those tires and not the brand name owner. The agency has held the brand name manufacturer responsible in the past for tire identification and recordkeeping (Part 574). The Act in section 159(1) holds brand name owners of tires responsible for defects and noncompliances by specifying that the brand name owner shall be deemed the manufacturer of the tires. The agency sees no reason to alter this established pattern of responsibility. However, a fabricating manufacturer and brand name manufacturer might establish by contract that the fabricating manufacturer would conduct all notification and recall campaigns.

In the preamble to the NPRM, the agency erroneously stated that tire manufacturers were required to retain the names and addresses of the owners of vehicles upon which their tires were mounted as original equipment. Tire manufacturers pointed out that this was inaccurate. Part 574 requires tire manufacturers to retain lists of people to whom their tires were sold, including vehicle manufacturers. The vehicle manufacturer would have the names of the owners of the

vehicles upon which potentially defective or non-complying tires were mounted and, if necessary, would supply that list to a tire manufacturer undertaking a recall campaign.

Proposed Part 579.5(a) and (b) received very few comments. Commenters to these provisions suggested only minor modifications in their language. GM and the Motor Vehicle Manufacturers Association suggested that the term "safety-related" be added to both sections before defect to indicate that manufacturers only had responsibilities for such defects. Under the Act, manufacturers need only recall and remedy defects that are in fact determined to be safety-related. Accordingly, the agency agrees with the commenters and amends the language of the section accordingly.

GM stated that the last part of paragraph (a) of proposed section 579.5 is unnecessary. That part of the sentence that read "installed on or in the vehicle at the time of its delivery to the first purchaser" is identical to the sentence in section 579.4(a) that defines original equipment. Therefore, its inclusion at this point is redundant and unnecessary. The agency has modified the section by the deletion of that portion of the sentence.

NHTSA is publishing this regulation without taking final action on proposed section 579.5(c), and is modifying 579.5(a) to delete all reference to paragraph (c). Paragraph (c) would have placed defect and noncompliance responsibilities upon equipment manufacturers that supplied

equipment to five or more vehicle manufacturers. This action is being taken without making any substantive determination on the merits of paragraph (c). A subsequent notice will deal with that paragraph and the comments thereon. However, due to the delay in the issuance of this Part and mindful of the fact that the modified definitions are important to the agency's enforcement scheme, NHTSA has determined that it is in the interest of efficiency to adopt the definitions sections of this regulation as proposed with some minor modifications, while retaining a responsibility section that basically retains the same responsibility provisions as the Act.

The agency has reviewed this regulation with respect to its potential costs and other impacts and has determined that any costs or other impacts will be minimal.

Accordingly, Title 49 of the Code of Federal Regulations is amended by the addition of Part 579

(Secs. 103, 108, 112, 113, Pub. L. 89-563, 80 Stat. 718, Sec. 102, Pub. L. 93-492, 88 Stat. 1470 (15 U.S.C. 1392, 1397, 1401, 1411-1420; delegation of authority at 49 CFR 1.50.)

Issued on August 24, 1978.

Joan Claybrook
Administrator

43 F.R. 38833-38834
August 31, 1978

PART 579—DEFECT AND NONCOMPLIANCE AND RESPONSIBILITY

Sec.

579.1 Scope.

579.2 Purpose.

579.3 Application.

579.4 Definitions.

579.5 Defect and noncompliance responsibility.

§ 579.1 Scope.

This part sets forth the responsibilities under Part B of the Act of manufacturers for safety-related defects and noncompliances with Federal motor vehicle safety standards in motor vehicles and items of motor vehicle equipment.

§ 579.2 Purpose.

The purpose of this part is to facilitate the notification of owners of defective and non-complying motor vehicles and items of motor vehicle equipment, and the remedy of defective and noncomplying vehicles and items of equipment, by equitably reapportioning the responsibility for safety-related defects and noncompliances with Federal motor vehicle safety standards among manufacturers of motor vehicles and motor vehicle equipment.

§ 579.3 Application.

This part applies to all manufacturers of motor vehicles and motor vehicle equipment.

§ 579.4 Definitions.

(a) "Original equipment" means an item of motor vehicle equipment (other than a tire) which was installed in or on a motor vehicle at the time of its delivery to the first purchaser if—

(1) The item of equipment was installed on or in the motor vehicle at the time of its delivery to a dealer or distributor for distribution; or

(2) The item of equipment was installed by the dealer or distributor with the express authorization of the motor vehicle manufacturer.

(b) "Replacement equipment" means—

(1) Motor vehicle equipment other than original equipment as defined in paragraph (a) of this section; and

(2) Tires.

(c) "The Act" means the National Traffic and Motor Vehicle Safety Act of 1966, as amended.

§ 579.5 Defect and noncompliance responsibility.

(a) Each manufacturer of a motor vehicle shall be responsible for any safety-related defect or any noncompliance determined to exist in the vehicle or in any item of original equipment.

(b) Each manufacturer of an item of replacement equipment shall be responsible for any safety-related defect or any noncompliance determined to exist in the equipment.

43 F.R. 38835

August 31, 1978

PREAMBLE TO PART 580—ODOMETER DISCLOSURE REQUIREMENTS

(Docket No. 72-31; Notice 2)

The purpose of this notice is to establish a regulation that will require a person who transfers ownership in a motor vehicle to give his buyer a written disclosure of the mileage the vehicle has traveled. The regulation carries out the directive of section 408(a) of the Motor Vehicle Information and Cost Savings Act, Public Law 92-513, 86 Stat. 947, and completes the provisions of the Act under Title IV, Odometer Requirements.

The regulation was first proposed in a notice published in the *Federal Register* on December 2, 1972 (37 F.R. 25727). As a result of numerous comments on the proposal, the regulation as issued today differs in some respects from its initial form.

As stated in the proposal, the agency's goals were to link the disclosure statement as closely as possible to the documents required for transfer of ownership, so that buyers and sellers would know of the need for disclosure, and to do so in a manner that would not introduce an additional document into motor vehicle transactions. The agency therefore proposed the use of the certificate of title as the document for odometer disclosure.

Upon review of the comments, it became evident that in most jurisdictions it would not be feasible to use the title certificate to convey odometer information. The main drawback to its use lies in the prevalence of state laws providing that if a vehicle is subject to a lien, the title is held by the lienholder. As a result, it appears that in a majority of cases private parties selling motor vehicles do not have possession of a certificate of title, and convey their interest by other means.

In those States that permit the owner of a vehicle subject to a lien to retain the title, the

lienholder will be unable to make the odometer disclosure on the title if he attempts to sell the vehicle after repossession. In many States, furthermore, the title certificate is not large enough to contain an adequate odometer disclosure, and the existing data processing and filing equipment would not accommodate an enlarged certificate.

There appears to have been some apprehension that the Federal government intended to compel the States to amend their certificates of title. The Act does not, however, confer any authority over the States in this regard. Even if the regulation were to require transferor disclosure on the title, the States could decline to provide a form for disclosure on the title. This voluntary aspect of the States' participation is a further impediment to the use of the title certificate.

After review of the problems created by the use of the certificate of title, the agency has decided that the purposes of the Act are better served by prescribing a separate form as the disclosure document in most cases. Section 580.4 has been amended accordingly. To avoid the need for duplicate State and Federal disclosures in States having odometer disclosure laws or regulations, the section permits the State form to be used in satisfaction of the Federal requirement, so long as it contains equivalent information and refers to the existence of a Federal remedy.

It should be noted that although the certificate of title is no longer required to be used for disclosure, it can still be used as the disclosure document if it contains the required information and if it is held by the transferor and given by him to the transferee. The basic concept is that the disclosure must be made as part of the transfer, and not at some later time.

In addition to the changes from the proposal represented by the change from the certificate of title to a separate form, there are other differences from the proposal in the regulation. For purposes of convenience, the following discussion treats the amended sections in sequence.

In section 580.3, the proposed definition of transferor might in some jurisdictions include a person who creates a security interest in a vehicle. This type of transaction was not intended to be regulated, and the definitions have been amended accordingly.

In section 580.4, in addition to the changes discussed above, other modifications have been made. In response to a comment suggesting that the disclosure would be made after the purchaser had become committed to buying the vehicle, the order of § 580.4(a) has been rearranged to specify that the odometer disclosure is to be made before the other transfer documents are executed.

The items listed under § 580.4(a) have been increased to allow for additional identification of the vehicle and owner that would be necessary on a separate disclosure document. If the disclosure is a part of another document, however, § 580.4(a)(1) provides that items (2) through (4) need not be repeated if found elsewhere in the document. A number of comments noted that the items under (a) might often be redundant.

A new paragraph (b) has been inserted in § 580.4 to require a reference to the sanctions provided by the Act. No specific form is required, but the inclusion of such a statement is considered essential to notify the transferee of the reason why he is being given the odometer information.

The former paragraph (b) of § 580.4 has been renumbered as (c), and the alternative methods for odometer disclosure discussed above are found as paragraphs (d) and (e).

A new section, § 580.5, Exemptions, has been added in response to a number of comments that objected to the application of the requirements to categories of vehicles for which the odometer is not used as a guide to value. Buses and large trucks, for example, are routinely driven hundreds of thousands of miles, and their main-

tenance records have traditionally been relied on by buyers as the principal guide to their condition. The NHTSA is in agreement with the position taken by Freightliner, White, and the National Association of Motor Bus Operators, and has therefore created an exemption for larger vehicles. The exemption applies to vehicles having gross vehicle weight ratings of more than 16,000 pounds.

A second category of exempt vehicles has been created for antique vehicles, whose value is a function of their age, condition, and scarcity, and for which the odometer mileage is irrelevant. A third exempt category consists of vehicles that are not self-propelled, such as trailers, most of which are not equipped with odometers.

Several vehicle manufacturers stated that the proposal would require them to give disclosure statements to their distributors and dealers, and that such a requirement would be both burdensome and pointless. Upon consideration of the nature of manufacturer-dealer transactions, it has been decided to exempt transfers of new vehicles that occur prior to the first sale of the vehicle for purposes other than resale.

The odometer disclosure form set forth in § 580.6 has been reworded to make it clearer. Space for additional information about the vehicle and owner has been included so that the vehicle will be readily identifiable if the disclosure statement becomes separated from the other transfer documents. In accordance with the instructions of the Act, the transferor is directed to state that the mileage is unknown if he knows that the actual mileage differs from the mileage shown on the odometer. Although several comments suggested that the true mileage, if known, should be stated, such a statement is not provided for in the Act and would not afford the buyer with reliable information about the vehicle.

The effective date proposed in the notice was to have been six months after issuance. Two States, perhaps under the impression that they were required to change their forms, requested an additional six months. Other comments, notably that of the National Automobile Dealers Association, urged an immediate effective date in order to make the disclosure requirements coin-

cide with the effectiveness of the other parts of Title IV of the Act. Upon consideration of the important contribution the disclosure requirements make to the effectiveness of the Act's other provisions, it has been decided that an effective date earlier than six months after issuance is advisable.

Accordingly, the regulation is to become effective March 1, 1973. Although it is likely that most private persons will remain unaware of the disclosure requirements for some time after March 1, 1973, a person who does not know of the requirement will not have "intent to defraud" under section 409(a) of the Act and will therefore not be subject to liability solely because he has failed to make the required statement. The persons most immediately affected by the disclosure requirements are commercial enterprises such as dealers and wholesalers, and of these the

largest group, represented by NADA, has already indicated its desire for an early effective date. The earlier effective date is therefore considered appropriate.

In consideration of the foregoing, a new Part 580, Odometer Disclosure Requirements, is added to Title 49, Code of Federal Regulations, to read as set forth below.

Issued under the authority of section 408(a) of the Motor Vehicle Information and Cost Savings Act, P.L. 92-513, 86 Stat. 947, and the delegation of authority at 49 C.F.R. 1.51.

Issued on January 23, 1973.

Douglas W. Toms,
Administrator.

38 F.R. 2978
January 31, 1973

PREAMBLE TO PART 580—ODOMETER DISCLOSURE REQUIREMENTS

(Docket No. 77-03; Notice 2)

This notice amends the odometer disclosure statement that must be executed upon each sale of a motor vehicle. The former statement often proved confusing and was sometimes used in a misleading manner. The amended statement is clearer and less likely to be misused.

Effective date: January 1, 1978.

For further information contact:

Kathleen DeMeter, Office of the Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, SW., Washington, D.C. 20590 (202-426-1834).

Supplementary information: The disclosure statement is required by 49 CFR Part 580, Odometer Disclosure Requirements, a regulation issued by the National Highway Traffic Safety Administration (NHTSA) to implement the requirements of the Motor Vehicle Information and Cost Savings Act (Pub. L. 92-513, as amended by Pub. L. 94-364; 15 U.S.C. 1901-1991). The regulation, which has been in effect since March 1, 1973, requires each transferor of a motor vehicle to give the transferee a written statement attesting to the accuracy of the vehicle's odometer.

Experience with the regulation has shown several respects in which it should be improved. In response to a petition for rulemaking submitted by the National Automobile Dealers Association, and in recognition of the need for improvements in the disclosure statement, the NHTSA issued a notice on February 9, 1977 (42 F.R. 9045) which proposed changes in the form and content of the odometer disclosure statement.

Differences between proposed and final rule. The final rule differs from the proposed rule in several respects. The notice had proposed to require the disclosure form to include the last license plate number, State and year. In view of the number of commenters who stated that this

information was not needed to identify a vehicle or to trace a vehicle's history, the agency has decided to delete this requirement from the final rule.

The notice proposed a substantial enlargement of the disclosure form, including a certification that the odometer was either not altered, or altered for repair or replacement purposes only. This certification had been proposed in response to the NADA petition, and drew few critical comments. Two commenters raised Fifth Amendment questions concerning these additional boxes. The Department of Health, Education, and Welfare's Office of Consumer Affairs noted that these alternative certifications might give rise to possible violations of the transferor's right against self-incrimination since a willful false certification may amount to an admission of a violation of the Act. The NHTSA, however, believes that no Fifth Amendment problem could arise. In cases dealing with this issue the Supreme Court has held that where the dominant purpose of a record-keeping requirement is to compel criminals to keep incriminating records, the statute is invalid and the 5th Amendment may be invoked. However, where the record-keeping requirements have an independent purpose and do not involve a selective group which is inherently suspect of criminal activities, the statute is valid and the 5th Amendment may not be invoked. All businessmen, as well as all consumers, who sell automobiles would be required to execute odometer disclosure statements. Statements are not required only of those individuals who are most often found to tamper with odometers. The primary purpose of a statement is to inform a potential buyer of the car's mileage so that he may have an index to the condition and value of the vehicle. The fact that individuals who tamper with vehicle odometers would be executing in-

criminating records is not the dominant purpose of this requirement. Consequently, these provisions will be retained in the final rule with one minor change suggested by a commenter. In view of the fact that these certifications actually involve three separate statements, instead of two as indicated in the NPRM, the NHTSA had decided to divide the second certification into two: first, that the odometer was altered and the mileage is identical to that before repair; and second, that the odometer was altered and reset to zero, with a statement of the mileage on the original odometer or the odometer before repair.

Several commenters suggested that the transferee's name and address should be provided in a disclosure statement, in addition to his signature. This would provide a useful tool in tracing the vehicle's history and consequently, the NHTSA has decided to require that this information be included.

With the gradual conversion to the metric system now going on in the United States, the regulation has also been changed to provide for odometer readings that are expressed in kilometers where the vehicle records the distance traveled in metric units.

The bulk of the comments received were favorable. The primary objection was that the proposed final effective date of April 15, 1977, did not allow adequate time for new forms to be prepared and printed. In addition, it would have increased costs because it would not have allowed sufficient time for stocks of the present form to be depleted. In response to these comments, the agency has adopted an effective date of January 1, 1978.

One of the original goals of NHTSA was to link the disclosure statement as closely as possible to the documents required for transfer of ownership, so that buyers and sellers would know of the need for disclosure. To accomplish this goal in a manner that would not introduce an additional document into motor vehicle transactions, the agency proposed to use the certificate of title as the document for odometer disclosure.

The comments to that initial proposal persuaded the agency that providing the odometer reading on the title would not be feasible as the

sole method of disclosure. NHTSA still believes, however, that placing odometer information on the certificate of title will be useful both to consumers and to law enforcement officials. This belief is substantiated by a recent resolution of the National Association of Attorneys General, which endorsed odometer information on State certificates of title as the most effective means to ensure a permanent record of the mileage history of a motor vehicle, and by the development by the American Association of Motor Vehicle Administrators of model procedures for the disclosure of odometer information on vehicle titles. Such a record would be easily accessible to governmental enforcement agencies as well as prospective purchasers of used motor vehicles.

The notice of February 7, 1977, proposed to allow the use of a State document containing odometer disclosure information if the State document contained "all" of the information required on the Federal form. A comment from the Attorney General of Ohio pointed out that it would be difficult for States to include "all" of the odometer information on their titles because of the limited space available. Consequently, NHTSA has decided to revise § 580.4(f) to accommodate those States that provide odometer information on their titles by establishing a procedure under which States can have their titles approved for use as odometer disclosure statements. In view of the utility of titles and their limited space, the procedure would permit shortening the odometer provisions on the title where necessary. Although a shorter disclosure might sacrifice clarity to a degree, the agency regards this as an acceptable price for gaining the benefits of a combined title and odometer disclosure.

States that wish to have their certificates of title satisfy the Federal odometer disclosure requirements must meet the basic provisions of the Federal requirement, with the following exceptions:

(1) The citation to the Federal law may be deleted in favor of a reference to State law. The reference provisions could then state that "Federal and State regulations require you to state the odometer mileage upon transfer of ownership. (Citation to State law instead of Federal law)."

(2) The initial statement of the odometer reading and the following alternate certifications should be included on the title. States may, however, condense that information as long as none of the certifications are lost. An example of such condensation could be "I certify to the best of my knowledge that the odometer reading is ----- and reflects the actual mileage of the vehicle described herein or (check if applicable).

☐ 1. The amount of mileage stated is in excess of 99,999 miles, or

☐ 2. The odometer reading is not the actual mileage."

3. The transferee's signature must still appear on the title but it need not expressly indicate acknowledgement of receipt of the disclosures.

4. The certification that the odometer was either not altered or altered for repair or replacement purposes may be deleted.

All deviations on the certificate of title from the Federal requirements must be approved by the NHTSA prior to the use of State titles as substitutes for the Federal form. The exceptions noted above are to be used by the States only as guides in preparing conforming titles. In order for the citizens of a State to use the certificate of title as their odometer disclosure form, the Administrator of the State Department of Motor Vehicles must first request an exemption from the provision of the disclosure requirement by submitting such request in writing with a copy of the proposed certificate of title. The NHTSA will then notify the Administrator of its decision to accept or refuse the request and the reasons for its decision. Upon receipt of the NHTSA's acceptance of the request for an exemption, the State may proceed with a campaign to notify consumers, dealers and distributors of such acceptance. It shall be the State's responsibility to publicize that its title may be used in place of the odometer disclosure statement.

Additional comments. One commenter asked whether there would be specifications for size. There are none, with the understanding that all print should be legible to the naked eye. Another commenter suggested that section 580.4(c) (3) be changed to add the word "believed" so that the

reading would be "I hereby certify that to the best of my knowledge the odometer reading as stated above is believed NOT to be the actual mileage. . . ." NHTSA considers this addition unnecessary because the certification already states "to the best of my knowledge."

A commenter proposed that the form should be amended to say that the names and addresses of prior owners are available from a State agency. NHTSA has determined that this should not be added. The addresses are not available from some State agencies and such a provision would therefore be of limited utility. Another addition that was suggested was to add a reference to the minimum damages and attorneys fees available under the Federal law. This was proposed to alert consumers to the fact that certain impediments to enforcement, such as the expense of lawyers and proof of actual damages, are removed by the Act. These references, like any other additions desired by the States or transferors, may be added, but will not be required due to space limitations and to a determination that they are not necessary if there is sufficient publicity of the law.

An individual commented that the seller should be allowed to estimate the amount of mileage difference and explain the error. There is certainly no prohibition against a seller doing so, but NHTSA sees no benefit to be gained in requiring this. A buyer can, and certainly should, request such information, but anyone who has violated the Act will, nonetheless, not provide a truthful statement of the mileage difference or the reason for that difference. The result could be that a buyer is unknowingly led into reliance on this false statement, whereas an independent check of his own could have produced the truth.

It was suggested that positive introductory statements be used for the certification sections. The commenter noted that in its experience, when a positive introductory statement is lacking, the seller fails to check any box. Its proposal would modify the statement as follows: "I ----- state that the odometer now reads ----- miles and I hereby certify that to the best of my knowledge the odometer reading as stated above reflects the actual mileage of the vehicle

described below, unless one of the following statements is checked.

☐ (1) I hereby certify that the odometer reading reflects the amount of mileage in excess...."

☐ (2) I hereby certify that to the best of my knowledge the odometer reading as stated above is NOT..."

The NHTSA has not experienced the failure to check a box when a positive introductory statement is lacking and consequently, will retain the statement in the proposed rule. Should it become evident that a positive introductory statement is needed, further rulemaking will be undertaken. It should be noted that the form suggested by this commenter would significantly shorten the length of this provision, thus it would be an acceptable alternative only where the odometer disclosure is on the certificate of title.

A suggestion was made to provide a notice that an auxiliary odometer had been used in the vehicle. The auxiliary odometer would interrupt the operation of the regular odometer and cause it to register less than the vehicle's actual mileage. The seller would therefore be required by the present language of the regulation to notify the buyer of the odometer error. In view of this, NHTSA considers it unnecessary to refer specifically to an auxiliary odometer.

It was also suggested that the owner of a vehicle be allowed to replace or adjust the odometer to reflect actual mileage. The commenter noted that occasionally odometers jump ahead 10, 20, or 30 thousand miles and if the odometer cannot be altered to read the actual mileage instead of the mileage on the odometer before repair or replacement, the trade-in value would be drastically decreased to the harm of the owner. NHTSA believes that the few cases in which the odometer malfunctions and rolls forward too fast are too slight to justify this provision. Such a provision would create a loophole for those who wanted to roll back their odometer and then claim that it

was rolling over too fast and they had to fix it by moving it backward. Anyone whose odometer did jump could replace or repair the odometer, set it to zero so that a buyer would not be misled by the odometer reading, and upon sale provide a statement to the buyer that the mileage is NOT actual and that the actual mileage is less than that shown on the odometer or on the repair or replacement sticker. More importantly, it should be noted that the repair and replacement provisions, wherein the owner is required to reset the odometer to the mileage before repair or replacement or to zero, are part of the Motor Vehicle Information and Cost Savings Act (section 407(a)). Consequently, they are not susceptible to change by NHTSA, but only by Congress.

Requests by commenters that odometer readings be required on registration forms, that statements be required to be retained, and that manufacturers be required to furnish 6 digit odometers are not applicable to this rulemaking action. It should be noted that a retention requirement for odometer disclosure statements will be issued soon and that a proposed rule requiring tamper-proof odometers which indicate when they have exceeded 100,000 miles or kilometers was issued on December 7, 1976. The proposed effective date of the latter rule is September 1, 1979.

In consideration of the foregoing, Part 580, Odometer Disclosure Requirements is amended...

The lawyer principally responsible for this rule is Kathleen DeMeter.

(Sec. 408, Pub. L. 92-513, 86 Stat. 962, as amended by Pub. L. 94-364, 90 Stat. 983 (15 U.S.C. 1988); delegation of authority at 49 CFR 501.8(i).)

Issued on July 25, 1977.

Joan Claybrook
Administrator

42 F.R. 38906-38908
August 1, 1977

PREAMBLE TO PART 580—ODOMETER DISCLOSURE REQUIREMENTS

(Docket No. 77-06; Notice 2)

The Secretary of Transportation is authorized by the Motor Vehicle Information and Cost Savings Act to specify requirements for retention of odometer statements by dealers and distributors of motor vehicles. This notice prescribes the manner in which this information should be retained. The intended effect of this regulation is to afford the government and aggrieved parties documentation necessary to prove a violation of the Act, and to pinpoint exactly where the violation occurred.

Effective date: March 9, 1978.

For further information contact:

Kathleen DeMeter, Office of Chief Counsel,
National Highway Traffic Safety Administration,
400 Seventh Street, SW., Washington,
D.C. 20590 (202-426-1834).

Supplementary information: The Motor Vehicle Information and Cost Savings Act (Pub. L. 92-513, 86 Stat. 947-963, 15 U.S.C. 1901-1999) directed the Secretary of Transportation to issue regulations to require each transferor of a motor vehicle to give the transferee a written statement of the mileage shown on the vehicle's odometer and to advise the transferee if the mileage shown on the odometer was known to be different from the vehicle's actual mileage. A regulation was issued pursuant to section 408 of the Act to prescribe the manner of disclosure (49 CFR Part 580), but the Secretary chose not to exercise the authority given him under subsection 408(a) to specify the manner in which such information was to be retained.

The 1976 amendments to the Act (Pub. L. 94-364, 90 Stat. 981) conferred extensive investigative powers upon the Secretary. One effect of these new powers is to enhance the value of a record retention requirement as an investigatory tool. The disclosure statement plays an impor-

tant role in the investigation of odometer tampering and fraud. In order to prove that an odometer has been rolled back or otherwise tampered with in violation of the Act, it must be possible to ascertain the amount of actual mileage the vehicle has been driven. An effective way of discovering this information is by examining previous odometer mileage statements required to be executed by all owners in the chain of title.

To enhance the ability of the statement to protect all future transferees a notice of proposed rulemaking (NPRM) was issued on November 1, 1977, which would not only require the dealers and distributors to retain for four years the statements issued to them but would also require them to retain for four years a copy of each statement which they issued. Such retentions would afford the government and aggrieved parties the necessary documentation to prove a violation of the Act, and also to pinpoint exactly where that violation occurred. All of the comments submitted in response to the NPRM have been considered and the most significant ones are discussed below.

The final rule is almost identical to the NPRM. The NPRM proposed that odometer mileage statements be retained in chronological order. The final rule permits mileage statements to be retained in an order appropriate to the business requirements of each dealer and distributor. A majority of commenters objected to the chronological order provision. A number of other methods of filing were suggested, such as by vehicle identification number and alphabetical order by the customer's last name. Due to the wide variety of methods of filing presently used, the NHTSA believes that a single mandated method of filing would result in unnecessary cost and duplication. Therefore, the new section permits dealers and distributors to retain odometer mileage statements in a manner consistent with their

existing recordkeeping procedures. The section requires that however the recordkeeping system is organized, it must permit a systematic retrieval of odometer statements.

One commenter suggested that a longer lead-time was necessary to accommodate changes in filing procedures. However, since recordkeeping requirements need not be changed, there should be no lead time problems.

Several commenters objected to the scope of the rule. There appeared to be some confusion among the commenters as to whether the rule applied to insurance companies, manufacturers and financial institutions. The final rule applies to all dealers and distributors of motor vehicles. A "dealer" is defined in section 402 of the Act as "any person who has sold 5 or more motor vehicles in the past 12 months to purchasers who in good faith purchase such vehicles for purposes other than resale." A "distributor" is defined in the same section as "any person who has sold 5 or more vehicles in the past 12 months for resale." Given these definitions, a manufacturer would be a "distributor." However, § 580.5 of Title 49, Code of Federal Regulations specifically exempt manufacturers who sell vehicles to dealers from the requirements of executing disclosure statements. Section 583.7 of this final rule has been reworded to make it clear that only those "dealers" and "distributors" who are required to execute disclosure statements must retain them. Financial institutions and insurance companies do

not fall within any of the exemptions set forth in § 580.5, so they must execute and retain the statements unless the transfers involve vehicles that are so badly damaged that they cannot be returned to the road. In such transfers, the agency has ruled that the damaged vehicles are no longer "motor vehicles" for purposes of the disclosure regulations.

In light of the foregoing, Part 580, Odometer Disclosure Requirements, of Title 49, Code of Federal Regulations, is amended as set forth below.

The lawyer principally responsible for this rule is Kathleen DeMeter.

The rule does not require any persons to create additional records or to alter their business practices apart from keeping records they might once have discarded. In view of the expected benefits to the Department's enforcement program, it is found for good cause that the rule may be issued with an immediate effective date.

(Secs. 408, 414, Pub. L. 92-513, 86 Stat. 947, as amended Pub. L. 94-364, 90 Stat. 981 (15 U.S.C. 1988, 1990(d)); delegation of authority at 49 CFR 1.50(f).).

Issued on March 7, 1978.

Joan Claybrook
Administrator

43 F.R. 10921-10922
March 16, 1978

PREAMBLE TO AMENDMENT TO PART 580—ODOMETER DISCLOSURE REQUIREMENTS

(Docket No. 77-06; Notice 4)

ACTION: Final rule.

SUMMARY: This notice allows States to use an abbreviated odometer disclosure statement on all motor vehicle ownership documents. The existing regulation permitted the shortened form to be used merely on the certificate of title. The purpose of this expansion is to increase State usage of odometer disclosure statements.

DATE: The effective date is the date of publication in the Federal Register.

FOR FURTHER INFORMATION CONTACT:

Kathleen DeMeter, Office of Chief Counsel,
National Highway Traffic Safety
Administration, 400 Seventh Street, S.W.,
Washington, D.C. 20590. (202-426-1834).

SUPPLEMENTARY INFORMATION: Section 408 of the Motor Vehicle Information and Cost Savings act (15 U.S.C. 1988) requires each transferor of a motor vehicle to provide to the transferee a written disclosure of the distance travelled by the vehicle. 49 CFR Part 580 prescribes the information to be included on the disclosure statement. On August 1, 1977, NHTSA amended the odometer disclosure statement (42 FR 38906). The amended statement is clearer than the former statement and less likely to be misused, but it is also longer.

NHTSA has urged the States to include the odometer statement on the title. Six States had included the original statement. In commenting on the longer statement, several States observed that the title, with its size limitations, presented more problems with inclusion of the odometer statement than did other documents relating to the transfer and ownership of motor vehicles. Because of this, the 1977 amendment specifically allowed a shortened form to be used on certificates of title, but not on other ownership documents.

On May 7, 1979, the NHTSA issued a notice of proposed rulemaking in which it granted a petition

by the American Association of Motor Vehicle Administrators (AAMVA) to amend the Federal odometer disclosure requirements to allow the abbreviated form to be used on ownership documents other than the certificate of title (44 FR 28032). The AAMVA emphasized that many of the State documents used to evidence ownership of motor vehicles are too small to accommodate the additional information required. They argued that States should not have to rely on separate odometer forms for these transfers but should be allowed to use the shortened form on all documents which evidence ownership, not only on the certificate of title.

Seven States responded to the notice of proposed rulemaking. Comments were received from the motor vehicle departments in Virginia, Washington, Delaware, Wisconsin, New Jersey, Texas, and Oregon. Most comments were favorable. The Virginia Division of Motor Vehicles asked that the short form be acceptable on all applications for title. The more State documents that contain mileage information the more difficult it will be for odometer rollbacks to go undetected. Consequently, the NHTSA encourages the use of the short form on applications for title as well as certificates of title.

Washington and Wisconsin suggested respectively that the introductory paragraph citing the Federal law be deleted or shortened due to document size limitations. The August 1, 1977, amendment to the disclosure form noted that a reference to State law may be substituted for the citation to the Federal law.

Consistent with this interpretation, it is the agency's opinion that the actual law need not be cited if a warning statement appears such as that suggested by Washington, "Warning False Statements Violate Federal Law."

The Texas State Department of Highways and Public Transportation offered the only negative comments to the proposal. It argued that a purchaser who finances a motor vehicle could not execute a form on the certificate of title at the time of sale because the certificate is held by a bank or financial institution as security. Although the Texas comment illustrates the difficulties of trying to require the use of titles for odometer disclosure, the amendment is permissive and would not require Texas to change its practices in any way.

In accordance with Executive Order 12044, the regulation has been reviewed for environmental and economic impacts. It has been determined that the cost of implementing this regulation will be minimal. There are no additional requirements.

The regulation permits States to provide certain information on ownership documents but does not require them to do so. There are no environmental or other economic impacts, therefore, this regulation is not significant.

Issued on December 20, 1979.

Joan Claybrook
Administrator, National
Highway Traffic Safety
Administration

45 F.R. 784
January 3, 1980

PREAMBLE TO AN AMENDMENT TO PART 580

Odometer Disclosure Requirements

[Docket No. 81-13; Notice 2]

ACTION: Final rule.

SUMMARY: This rule amends 49 CFR Part 580 to exempt from the Odometer Disclosure Requirements all sales of new motor vehicles by a motor vehicle manufacturer directly to any agency of the United States. The purpose of this exemption, which is being issued pursuant to a petition by General Motors Corporation, is to relieve manufacturers of the burden of complying with this requirement.

EFFECTIVE DATE: December 20, 1982.

SUPPLEMENTARY INFORMATION: Since March 1, 1973, a regulation (49 CFR Part 580) has been in effect which requires the transferor of a motor vehicle to make written disclosure to the transferee concerning the odometer reading and its accuracy. This regulation lists four exceptions where the transferor need not disclose the vehicle's mileage.

On December 10, 1981, in response to a petition from General Motors Corporation, NHTSA published (46 F.R. 60482) a Notice of Proposed Rulemaking (NPRM) which proposed creating a fifth category of exempt transactions. That category consists of all sales in conformity with contractual specifications of motor vehicles by a manufacturer directly to any agency of the United States. GM noted that most of a vehicle manufacturer's transfers are already exempt from the disclosure requirements and this exemption would merely extend the existing exemption. GM stressed that the disclosure requirements were designed to protect consumers against odometer fraud in retail transactions. The conditions lending themselves

to fraud in the retail market are, GM argued, non-existent in manufacturer-to-government sales.

Two comments were received in response to the NPRM. Chrysler Corporation supported the proposed change without qualification. PACCAR, Inc. supported the concept of the additional exemption and the rationale behind it, but expressed reservations about the unsettled issue of NHTSA's authority to promulgate any exemption to the odometer disclosure regulation. PACCAR noted correctly that two Federal District Courts have invalidated the exemption for trucks over 16,000 GVWR on the basis that the NHTSA is not authorized to make any exemptions to the law.

Section 408 (a) of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1988) states that the Secretary of the Department of Transportation shall prescribe rules requiring transferors to give written mileage disclosures to transferees in connection with the transfer of ownership of a motor vehicle. It is the interpretation of NHTSA that this grant of rulemaking authority empowers the agency to also make exceptions to the requirement where it is shown that no mileage statement is necessary. NHTSA recognizes that there is a conflict between its interpretation of the Act and the interpretation of the United States District Courts for the Districts of Nebraska and Idaho. While these decisions are not binding precedent in other Federal courts, they may, however, be used as guidance and followed should the issue arise in the future with respect to the same or one of the other exemptions. Therefore, NHTSA has advised interested persons of the two court opinions and their conflict with the current language of the regulation and forewarned them

that the issue has not been resolved. NHTSA is proceeding with this rulemaking action on the basis that its interpretation is correct, but is also advising manufacturers to consult with their

legal counsel to determine what course of action will most effectively protect their legal rights.

Issued on October 5, 1982.

Raymond A. Peck, Jr.

Administrator

47 F. R. 51884

November 18, 1982

PREAMBLE TO AN AMENDMENT TO PART 580

Odometer Disclosure Requirements (Docket No. 87-09; Notice 4)

ACTION: Final rule

SUMMARY: This rule implements the Truth in Mileage Act of 1986 (Pub. L. 99-579). As required by that statute, this rule requires that the seller (or other transferor) of a motor vehicle must provide mileage disclosure on the title document or, if the title document does not include a space for mileage disclosure (during the phase-in period) or if the motor vehicle has not been previously titled, it requires that the seller or other transferor must make a written disclosure of mileage on a separate document. Also as required by the statute, this rule requires that title documents be manufactured or otherwise set forth by a secure process to deter counterfeiting and alteration; requires that, at the time of issue, the titles include the mileage disclosure; adds disclosure requirements for lessors and lessees; and adds a record retention requirement for lessors and auction companies. In addition, consistent with the statute, this rule amends the form and content of the odometer disclosure statement and sets forth the procedures that a State may follow in requesting technical assistance, extensions of time or approval of alternate State mileage disclosure requirements. Finally, this rule clarifies the definition of transferor and transferee in the current regulation and extends the current record retention requirement for dealers and distributors.

DATES: Sections 580.10, 580.11 and 580.12 shall be effective September 6, 1988. As provided by the statute, all other provisions are effective April 29, 1989.

SUPPLEMENTARY INFORMATION:

The Truth in Mileage Act of 1986

After hearing testimony that odometer fraud costs consumers hundreds of dollars per purchase, in excess of \$2 billion annually; that a significant part of this fraud involves high mileage, recent vintage vehicles; and that odometer fraud occurs frequently under conditions where cars have been sold through mass sales techniques such as auctions, Congress determined that, for the protection of consumers, legislation was needed to strengthen the provisions

of the current law with respect to disclosure of motor vehicle mileage when motor vehicles are transferred, and enacted the Truth in Mileage Act of 1986, Pub. L. 99-579. This Act amends Title IV of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. §§ 1981-1991. The Truth in Mileage Act (TIMA) requires that any transfer of ownership and any application for retitling or licensing of any transferred motor vehicle be accompanied by the title of the vehicle. The title must include a space for the mileage of the vehicle and be printed by secure process, or if not printed, be set forth by a secure system, in order to decrease the possibility of counterfeiting or altering titles. New applications for titles must be accompanied by the transferor's (seller's) title, and if that title contains a space for the transferor to disclose the vehicle's mileage, that information must be included and the statement must be signed and dated by the transferor.

The new law also requires the lessor of vehicles with long-term leases to advise his lessee that the lessee is required by law to disclose the vehicle's mileage to the lessor upon the lessor's transfer of ownership, and the penalty for noncompliance. In addition, the new law requires that auction companies establish and maintain records for at least four years following the date a vehicle is sold at the auction. The records must include the name of the most recent owner of the vehicle, the name of the buyer, the vehicle identification number and the odometer reading on the date the auction took possession of the vehicle.

Finally, the new law directs this agency to provide technical assistance at the request of any State to conform its laws to this rule and to the Truth in Mileage Act, and authorizes the agency to provide extensions of time in the event that any State requires additional time beyond April 29, 1989, in revising its laws to meet the new Federal criteria. It also directs the agency to approve of alternate motor vehicle mileage disclosure requirements if they are consistent with the purposes of the new law.

The Notice of Proposed Rulemaking

In response to this statutory mandate, NHTSA published a notice of proposed rulemaking (NPRM) on July 17, 1987. 52 FR 27028 (1987). The NPRM

proposed to make mileage disclosure a condition of title and require that titles be set forth by a secure process, amend the form and content of the odometer disclosure statement, add disclosure requirements for lessors and lessees, extend the current record retention requirement for dealers and distributors and add a record retention requirement for lessors and auction companies. In addition, we proposed procedures that a State may follow in requesting technical assistance, extensions of time or approval of an alternative State mileage disclosure requirement. Finally, we proposed to clarify some aspects of the current regulation by redefining transferor and transferee and adding a definition of mileage.

The agency received numerous comments on the NPRM, representing the opinions of new and used car dealers, auto auctions, leasing companies, State motor vehicle administrators, and enforcement and consumer protection agencies involved in odometer enforcement. Each of these comments has been considered and the most significant points are addressed below.

The NPRM contained a detailed discussion of the provisions of the Truth in Mileage Act and explained the agency's rationale for proposing each of the requirements. This preamble follows a similar organizational format, to allow the reader to easily compare the two documents, with additional detail given to the disclosure requirements.

Definitions

To clarify that the liability for issuing a false odometer disclosure statement could be placed on a person acting as an agent for the owner of a vehicle, we proposed to amend the definition of the term "transferor" to include the transferor's agent. Similarly, we proposed to expand the definition of transferee to include the transferee's agent. One commenter stated that the proposed definitions were simple and straightforward and the National Automobile Dealers Association (NADA) supported the objective of the modifications to the extent that they will assist in the successful prosecution of wrongdoers who have avoided convictions based on a technicality. However, NADA and other commenters did express some concern.

Anglo American Auto Auction, Inc. (Anglo) feared that the definition of transferor may be misconstrued to require that *every* agent who participates in the transfer must complete an odometer statement and suggested that the definition be amended to include that "transferor" also "means any person, who as agent makes the disclosure of odometer information" required by the regulation. However, Anglo correctly noted that the definition of transferor and transferee, if properly construed, would *not* include salespersons or clerks who may play a role in the transfer process, but who, as a legal matter, do not actually transfer

the ownership of the vehicle. Since no other commenters misconstrued the definition and since we have the opportunity to clarify the definition of transferor in this preamble, we will not adopt Anglo's proposal.

The National Auto Auction Association (NAAA) asserted that the expansion of the definitions goes beyond the intent of the Motor Vehicle Information and Cost Savings Act ("Cost Savings Act") and the Truth in Mileage Act, and exceeds NHTSA's rule-making authority. NAAA noted that neither the Cost Savings Act nor the Truth in Mileage Act defines transferor and transferee; that transfer is defined in the Cost Savings Act; and that NHTSA was directed by the Cost Savings Act to promulgate rules concerning a written disclosure by the transferor to the transferee. NAAA argues that there is nothing in either statute which gives NHTSA the authority to define transferor and transferee. Furthermore, NAAA argues that an administrative agency cannot alter a duly enacted statute through the use of its own regulations and cannot distort plain and obvious statutory language.

As NAAA correctly notes, neither statute defines transferor and transferee. Furthermore, the legislative history of these statutes does not define these terms and Congress did not explicitly direct NHTSA to promulgate definitions of them. However, Congress directed NHTSA to prescribe rules requiring any transferor to give a written mileage disclosure to the transferee in connection with the transfer of ownership under section 408 of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1988. Implicit in this directive is the authority to define the terms. The District Court for the District of Columbia has held that where Congress has delegated certain interpretive powers, either explicitly or implicitly, the agency's interpretation should receive deference. Where neither the statute nor legislation history explicitly define a statutory term, an agency's interpretation must be accepted if it is "based on a permissible construction of the statute, . . ." *Pa. Public Utility Com'n v. United States*, 749 F.2d 841, 849 (D.C. Cir. 1984), citing *Chevron, U.S.A. v. Natural Resources Defense Council*, 467 U.S. 837, 843 (1983). The definitions, as proposed, are consistent with the definition of "transfer" which is "to change ownership by purchase, gift, or any other means." 15 U.S.C. § 1982(2). Furthermore, rather than going beyond the legislative intent or distorting the statutory language, these definitions help to further the expressed Congressional intent of "establishing safeguards for the protection of consumers with respect to the sale of vehicles having altered odometers," 15 U.S.C. § 1981. It closes loopholes which have limited the Government's ability to prosecute certain violations of the odometer laws because of an ambiguity in the definition. (See, *U.S. v. Powell*, 806 F.2d 1421 (9th Cir.

1986)). Therefore, these definitions do not exceed NHTSA's statutory authority. Finally, in accordance with the Administrative Procedures Act, these definitions are promulgated pursuant to notice and comment. *See also*, 37 FR 25727 (1972); 38 FR 2978 (1973).

NAAA also objected to the proposed definitions because "this exposes a variety of persons to liability . . . who are not owners of the motor vehicles being transferred. In addition to including employees and independent contractors working for the transferor, this expanded definition would include any person using a power of attorney from the transferor, and frequently, that person not only has no knowledge regarding the accuracy of the odometer reading, but has no means of conducting an investigation to ascertain the accuracy of the odometer reading." NAAA asked that the definitions be limited to including employees working for the owner or authorized to transfer ownership of the motor vehicle. Further concern about the definition of transferor was expressed by a coalition of commenters, "the coalition," consisting of NADA, NAAA, the American Association of Motor Vehicle Administrators (AAMVA), the Automotive Trade Association Executives (ATAE), the American Car Rental Association (ACRA) and the National Independent Automobile Dealers Association (NIADA). The coalition asserted that those who accurately complete a transferor's mileage disclosure based on the transferor's secure power of attorney (a power of attorney that is set forth by a secure printing process or other secure process) should not be considered agents of the transferor and asked that these individuals be specifically excluded from the definition of transferor. However, the coalition did not include any rationale in support of its position. Similarly, the Texas Automobile Dealers Association proposed, without additional comment, that anyone who completes a disclosure statement on behalf of a transferor based upon a power of attorney should be excluded from the definition of transferor. We will not incorporate these suggestions into the final rule. Contrary to the assertion of NAAA, the expansion of the definitions does not expose more people to liability, but merely closes a loophole where defendants have escaped liability due to ambiguity in the current regulation. While the case law has limited the Government's ability to prosecute a company employee who falsely certifies odometer mileage on the ground that the employee is not a transferor (*see, U.S. v. Powell*, 806 F.2d 1421 (9th Cir. 1986)), we believe that where appropriate under general legal principles of agency, an employee or other agent of a principal should be liable for his actions and that a principal should be liable for the actions of its agents. With regard to whether a person has any "knowledge" concerning the accuracy of the reading, the Motor Vehicle Information and Cost Savings Act itself recognizes that in order to be found liable under the Act, a person must have

an intent to defraud for civil liability, or knowingly and willfully commit any act in violation of the Act to be convicted criminally. Through these definitions, we are stressing the importance of mileage. It is incumbent upon anyone acting as an agent, even those with a power of attorney, to obtain mileage information from the appropriate source. The definitions of transferor and transferee are adopted as proposed.

We proposed a definition of mileage for two reasons. First, the definition makes clear that there is a difference between mileage and odometer reading. Second, the proposed definition reflects the agency's position that a person may lawfully replace odometers which register kilometers with those that register miles traveled. No comments were received on this proposal and it is adopted in this final rule.

Definitions of lessee and lessor, consistent with the TIMA definition of leased motor vehicle, were proposed to clarify all references to these persons. The National Association of Fleet Administrators (NAFA) and PHH Group, Inc. (PHH) requested that the definition of lessee be expanded to include the agent for the lessee. PHH noted that expanding the definition of lessee would allow for flexibility since a lessee could be an entity other than the operator of the vehicle. NAFA noted that an expanded definition of lessee would be more flexible and would allow the lessee's drivers to sign the disclosure statements in accordance with current business practices. In addition, NAFA commented that the expanded definition would parallel the definitions of transferor and transferee. The agency agrees with the commenters and has expanded the definition of lessee to include the agent of the lessee, which is consistent with the definitions of transferor and transferee. Also, for consistency, the agency has expanded the definition of lessor to include the agent of the lessor.

In accordance with the Congressional intent to encourage new technologies which will provide increased security for titles, we proposed to broadly define the terms "secure printing process" and "other secure processes" as "any process which deters and detects counterfeiting and/or unauthorized reproduction and allows alterations to be visible to the naked eye." 3M requested that the definition be amended to read, in lieu of "visible to the naked eye," "easily detected under recommended viewing conditions." 3M stated that the definition, as proposed, could be interpreted to mean without the aid of a verification device and asserted that any verification process that precludes the use of a supporting device is too restrictive. We have not adopted 3M's suggestion. The intent of the Truth in Mileage Act is to provide a paper trail for the protection of consumers. Therefore, any alteration should be visible to the purchaser of a vehicle who would not routinely have the aid of a verification device. Furthermore, any alteration should be visible to title clerks reviewing titles prior to the is-

suance of new titles, and time constraints may prohibit clerks from examining every title with the aid of a verification device. We adopt the definition as proposed. However, we note that this definition does not preclude a State from utilizing any process which would include a verification device for additional document security.

Security for Motor Vehicle Titles

According to the new law, beginning on April 29, 1989, each State motor vehicle title must be set forth by a secure printing process or other secure process. To implement this statutory requirement, we proposed the addition of a new section 580.4 concerning the security of motor vehicle titles. To assist the States in their efforts to issue motor vehicle titles which comply with the requirements of the Truth in Mileage Act and this rule, Appendix A, consisting of a list of technologies that we proposed to deem to be secure processes, was included. Comments were requested on the appropriateness of the methods listed in Appendix A and on whether our final rule should contain a procedure by which a State could seek our concurrence in an alternative method of document security beyond those listed in the final rule.

The comments concerning the title and Appendix A were divergent. At one extreme, 3M suggested that NHTSA require the title be set forth by one of the secure processes listed in Appendix A and that Appendix A be amended to include all available security processes which would be ranked as to the level of security they provide. At the other extreme, AAMVA and several of its member jurisdictions commented that Appendix A is superfluous and unnecessarily limiting, and urged that it be deleted. They asserted that individual jurisdictions should remain free to utilize any processes, including new technologies, without having to secure approval from NHTSA. Other commenters suggested that security paper be added to Appendix A. One commenter urged the addition of a hologram. Another noted that intaglio printing with latent images is a combination of two features and explained that high resolution printing refers to how the original art was prepared.

To allow for maximum administrative discretion on the part of the States, we will not adopt 3M's suggestion to list and rank all secure processes. However, in lieu of deleting Appendix A, we have expanded and corrected it based on the comments received. Appendix A has been included to aid the States in the selection of a secure process and in no way limits the States or adds new requirements or restrictions beyond those listed in the rule itself. Furthermore, States are not required to seek our concurrence in an alternative method of document security beyond those listed in Appendix A. We defer to the States to establish specific standards on secure processes and will not limit the administrative discretion of the States.

However, if it becomes evident that the secure processes being used by the States fail to deter and detect counterfeiting and/or unauthorized reproductions and do not allow alterations to be visible to the naked eye, further rulemaking may have to be undertaken on the security of titles.

We also proposed as a requirement under this new section 580.4, that if a State allows subsequent reassignments of the vehicle to be recorded on a document other than the title itself, the document used to reassign title must be set forth by the same secure process. AAMVA and several of its member jurisdictions urged the agency to amend this requirement to read, rather than by the "same" secure process, by "a secure process." Arkansas asserted that it would be a financial burden for the State to use a reassignment document that incorporates the same secure process as its title. Other commenters were opposed to the proposal in its entirety. Texas, Vermont and the Arkansas Independent Auto Dealers Association cited cost burdens and indicated that the requirement was beyond the terms of the statute. Wisconsin, on the other hand, asked that NHTSA eliminate separate reassignment documents, noting that NHTSA expressed concern about issuing odometer disclosure statements on a separate piece of paper. In the alternative, Wisconsin suggested that if reassignments on a separate document are allowed, NHTSA should require the reassignment documents to bear control numbers and that the number be included on the title. Wisconsin also requested that NHTSA require the States to record the control numbers of the reassignment documents they give to each dealer and that each dealer keep a record of the reassignment document issued for each vehicle.

NHTSA has reconsidered its proposed requirement in response to these comments. While separate reassignment documents are not mentioned in the Truth in Mileage Act, they are often an integral part of the transfer process. Since reassignment documents are a logical extension of the title, requiring secure reassignment documents is a logical extension of the statutory requirement. Allowing secure titles to be transferred by a sheet of bond paper is incongruous. Therefore, the final rule requires secure reassignment documents. However, NHTSA has concluded that it can satisfy its statutory obligations and avoid unnecessary financial burdens upon the States by adopting the proposal of AAMVA and several of its member jurisdictions. Accordingly, the final rule has been changed to permit reassignment documents to be set forth by "a secure process" in lieu of the requirement that they be set forth by the same secure process as the title. By requiring reassignment documents to be secure, we hope to achieve deterrence of odometer fraud without the elimination of their use. Furthermore, although adopting Wisconsin's suggestion that secure reassignment documents be controlled may

lessen the incidence of odometer fraud, we have no explicit statutory authority to require that any title documents be controlled in the manner suggested by Wisconsin. We will not limit the administrative discretion of the States in this area even though we recognize that it is common practice to control secure documents. Nothing in the Act or this rule should be read as precluding a State from using control techniques on these documents.

Odometer Disclosure Requirements

A. Titles Issued by States

According to the new law, in addition to being secure, each State motor vehicle title must “indicate the mileage disclosure required to be made under subsection (a). . .” 15 U.S.C. § 1988(d)(2)(A)(ii). Subsection (a) refers to the disclosure requirements promulgated by NHTSA. To implement this provision, paralleling the language of the statute, we proposed, “Each title, at the time it is issued to the transferee, must contain the mileage disclosed by the transferor when ownership of the vehicle was transferred. . .”

Recognizing the importance of knowing whether the odometer reading on the title represents the actual distance a vehicle has traveled, Wisconsin proposed several qualifying notations or “brands” to include with the odometer reading. These brands would accompany the odometer reading on the face of the newly issued title. These proposed brands include: (1) ACTUAL MILEAGE; (2) MILEAGE EXCEEDS THE MECHANICAL LIMITS; (3) TRUE MILEAGE UNKNOWN; (4) EXEMPT FROM ODOMETER DISCLOSURE; and (5) ODOMETER TAMPERING VERIFIED. Wisconsin noted that AAMVA adopted a resolution (Resolution 19) at its 1987 International Conference in Washington, D.C., which states that “all jurisdictions include, in conjunction with the odometer reading which is to be recorded on the certificate of title, a notation that the recorded mileage is actual, not actual, or exceeds the mechanical limits.”

Since the definition of mileage is “actual distance that a vehicle has traveled,” the title must include a notation as to whether the odometer reading reflects the actual mileage, exceeds the mechanical limits or does not reflect the actual mileage. With regard to the brands proposed by Wisconsin, we do not adopt the brand “TRUE MILEAGE UNKNOWN.” As we discussed in the preamble to the proposed rule, true mileage unknown does not take into account situations where although the odometer does not reflect the actual mileage, it is not unknown. 52 FR 27026 (1987). Therefore, the brand should read “NOT THE ACTUAL MILEAGE.” With regard to the brand “EXEMPT FROM DISCLOSURE REQUIREMENTS,” while NHTSA will not require this notation, States are not prohibited under this final rule from adopting it. Finally, with regard to the brand

“ODOMETER TAMPERING VERIFIED,” we feel that this brand may lead to confusion upon subsequent sale of a vehicle because this statement is not included as part of the disclosure statement; however, States may use this brand in addition to the brand “NOT THE ACTUAL MILEAGE.”

B. Disclosure on Title

With regard to the disclosure of mileage, we proposed that “[a]t the time of transfer of ownership of a motor vehicle, each transferor shall disclose the mileage to the transferee in writing on the title or on the document being used to reassign title.” We invited comments on how titles could be made available to transferors where the vehicle is subject to a lien in order to meet the specific requirements of the law.

The majority of comments to the NPRM have centered around this provision. Several commenters endorsed this requirement. Wisconsin firmly declared that the vehicle documentation should accompany the vehicle itself, otherwise, the buyer’s best efforts to protect himself are effectively limited to a quick visual inspection of the vehicle and the odometer. The National Association of Consumer Agency Administrators (NACAA) stated that having the title accompany the vehicle is the most efficient mechanism for achieving meaningful and accurate disclosure to consumers. The Massachusetts Registry of Motor Vehicles wholeheartedly supports the strict odometer disclosure and title transfer requirements of the proposed regulations. The National Odometer Enforcement Association passed a resolution supporting the proposed rule.

Other commenters either asked that NHTSA define “transfer of ownership” or proposed definitions of the term. The Virginia Independent Automobile Dealers Association opined that transfer of ownership is a process that begins when funds are received by the dealer and ends when the customer receives either the new title or the document necessary to secure new title. NAFA asked NHTSA to define transfer of ownership as the point in time when title changes hands. AAMVA expressed concern that this requirement would be interpreted to mean that the title be present at the time the vehicle itself is transferred. AAMVA noted that over forty jurisdictions allow the lienholder to hold title and that this requirement would result in extensive regulatory and/or legislative change. AAMVA noted that this would be inconsistent with Congress’ intent that the Truth in Mileage Act would have minimal impacts on the States. Other commenters consistently stressed the burden upon transferors when the vehicles are under lien in States where the lienholder holds the title. The transferor could not obtain the title unless the lien is paid, and he may not be able to pay it off until he sells the vehicle. NIADA asserted that “. . . it is impossible in many situations for a dealer to conclude a transaction with the title present at the time of sale.” Nu-

merous car dealers exclaimed that if dealers had to have titles when selling vehicles, burdensome and costly changes in their recordkeeping practices would result. The Credit Union National Association noted that its members expressed concern that if financial institutions were unable to retain titles, they may feel the necessity to curtail car lending programs. Senator J. James Exon, Representative Thomas J. Tauke and Representative John Bryant asserted that "Congress never intended to require odometer disclosures, which are currently made at the time of a sales transaction, to be placed upon, and made only through, the title document itself. Such a requirement would needlessly increase regulatory burdens and disrupt the purchase and sale of used automobiles, not only by dealers but also by individual consumers. Rather, Congress intended that the mileage recorded on the new title be consistent with the mileage disclosed when the buyer and seller signed the sales contract." Anglo summed up its concerns by stating that a requirement that the title be present at the time of initial sale is inappropriate because of the unnecessary disruption of the efficient operation of the used car vehicle market it would cause for individuals and automobile dealers alike.

To alleviate the burden that might result if NHTSA were to require the title to be present at the time of sale, the coalition urged the Agency to accept an "owner copy" title procedure. Under the owner copy title procedure, title sets consisting of a title and a designated owner copy would be set forth by a secure printing process or other secure process and each would contain an appropriate Federal odometer disclosure statement or statements. In cases where the initial transferor does not have possession of the title at the time of sale or trade-in, the coalition proposed that NHTSA shall permit the transferor to disclose the mileage on the designated owner copy provided that the disclosure statement is fully completed, dated, and signed by the transferor. The owner copy and all subsequent reassignments would be presented with any application for new title. In addition, the coalition suggested that if the transferor does not have either the owner copy or the title, NHTSA should permit the use of a special power of attorney, which would also be submitted at the time of application for new title.

Some commenters, aware of the suggestion of a two part title system, expressed concern over the expenses which might result from its implementation. Delaware stated that there would be costly form and programming changes.

NHTSA has carefully evaluated these comments in light of the Truth in Mileage Act, Congressional intent, policy considerations and investigative experience. To alleviate unnecessary cost burdens on the States and the automobile industry while continuing to provide a paper trail in accordance with the law

and Congressional intent, we have amended the language in the proposed regulation concerning the time of the disclosure. The words, "In connection with the transfer of ownership . . ." will replace "At the time of transfer of ownership . . ." as the introductory phrase of section 580.5(c).

In issuing interpretations of the Motor Vehicle Information and Cost Savings Act, NHTSA has stated that "transfer of ownership" is determined by State law. Therefore, we have not, now, attempted to define the phrase.

Furthermore, Congress noted that "[o]ne of the major barriers to decreasing odometer fraud is the lack of evidence or 'paper trail' showing incidence of roll-backs," and enacted Section 2 of the Truth in Mileage Act. Section 2 prohibits the licensing of any vehicle for use in any State unless the title which is issued by the State to the transferee following a transfer "contains a space for the transferee to disclose (in the event of a future transfer) the mileage at the time of such future transfer and to sign and date the disclosure." It also states that a motor vehicle may not be licensed for use in any State unless, if the transferor's title contains a space for a mileage disclosure, the disclosure is signed and dated by the transferor. Section 408(d) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1988(d). Under these provisions, a disclosure must be made on the title. In the Committee Report accompanying the new law, Congress specifically noted that the amendments require that "any transfer of ownership or licensing of any vehicle be accompanied by the title of such vehicle." H.R. Rep. 833, 99th Cong., 2nd Sess., 18 (1986). We recognize that the remarks of Senator Exon and Representatives Bryant and Tauke differ from the Congressional intent set forth in this Committee Report. However, these comments were set forth in their letter to the Agency after the enactment of the statute, and although we have given their comments careful consideration, we note that postenactment statements of legislators have no probative weight in interpreting statutes and represent only the personal views of the legislators. *Bread Political Action Committee v. Federal Election Commission*, 455 U.S. 577 (1982); *Petry v. Block*, 697 F.2d 1169 (D.C. Cir. 1983). Additionally, if we were to adopt the comments of these legislators, there would continue to be a duplication of disclosure since there would be a separate odometer disclosure statement and the disclosure of odometer information on State titles because the majority of the States also require this information. In the regulatory evaluation prepared to analyze the details of this rule, NHTSA estimates that annual savings of \$2.6 million would result from the elimination of the separate odometer disclosure statement for used vehicle transfers.

We recognize that, under State laws, "transfer of ownership" may not occur at one point in time, but

is a process. Under this final rule, at some point during that process, the title, containing the disclosure statement completed and signed by the transferor, must be given to, and signed by, the transferee. The transferee may obtain the title in person or the title may be mailed to the transferee. We caution dealers and distributors who are required by this part to retain a copy of each odometer statement which they issue that, if they mail the title, they must ensure that they obtain a copy of the statement signed by the transferee in accordance with the record retention requirements of this part.

Under this requirement, the integrity of the paper trail has been maintained since the disclosure will be on the title and consumers will be able to see the disclosures and examine the titles for alterations, erasures or other marks. Furthermore, consumers will learn the names of previous owners that appear on the title.

We have not adopted the suggestion of the coalition to permit the use of a special power of attorney. A secure power of attorney would not allow transferees to see the actual title document, including the disclosures, and could easily be discarded. A forged substitute could then be submitted to the titling office. This final rule is flexible in permitting the disclosure in connection with the transfer of ownership and will not result in the burdens anticipated by the coalition.

NAAA argued that nothing in the Truth in Mileage Act requires that the title be the sole and exclusive means of making the full disclosure and that nothing prohibits the use of an odometer disclosure statement on a form separate from the title or reassignment forms. NHTSA agrees that the Act does not require the title to be the only means of making a disclosure. A seller may issue a separate odometer disclosure statement *in addition to* the one on the title. As we noted in the preamble to the proposed rule, dealers and distributors who elect to issue a disclosure statement in addition to the one on the title, must retain a copy of these separate disclosure statements, and a copy of the front and reverse sides of the title. Recognizing a doubled paperwork burden and resulting cost increases, NHTSA will not require a disclosure statement apart from the disclosure on the title.

C. Information Required to Be Disclosed

With regard to the information to be disclosed, the proposed section 580.5 continued to require certain information that the agency had already required and included some additional provisions. The proposal continued to require the transferor to sign the disclosure and to certify whether to the best of his knowledge the odometer reading reflects the vehicle's actual mileage. No comments were received on this proposal and it is adopted in the final rule.

We also proposed to continue to require the transferor to disclose whether the odometer reading reflects the amount of mileage in excess of the designed mechanical odometer limit, while proposing to delete any reference to specific designed mechanical odometer limitations. NADA urged NHTSA to eliminate any requirement for the certification that the odometer reading reflects the amount of mileage in excess of the designed mechanical limit, stating that it is not required by the Act and it is redundant with the requirement that the transferor certify that the odometer reading does not reflect the actual distance a vehicle has traveled. The Minnesota Automobile Dealers Association (MADA) noted that in situations where the odometer has a mechanical limit of 99,999 and the vehicle has traveled in excess of 200,000 miles, there would be no way to indicate this since the language of the proposed regulation requires the transferor to certify if he knows "the odometer reading reflects the amount of mileage in excess of the mechanical limit." This rule does not adopt these suggestions. Knowing whether a vehicle has traveled over 100,000 miles is important in determining its condition and value.

Additionally, to allow someone with a vehicle that has traveled over 100,000 miles to merely certify that the odometer reading does not reflect the actual mileage permits unscrupulous transferors to make oral misrepresentations as to the vehicle's actual mileage. Furthermore, it is unusual for passenger vehicles to travel in excess of 200,000 miles. While trucks and buses register such high mileage, transferors of vehicles having a Gross Vehicle Weight Rating over 16,000 pounds are exempt from the disclosure requirements. If transferors of vehicles that have travelled in excess of 200,000 miles wish to issue a disclosure statement, they may make a line through the words "the amount of," or alternatively, add an additional statement that would indicate how much over the mechanical limit the reading is. The requirement that the transferor disclose whether the odometer reading reflects the amount of mileage in excess of the designed mechanical odometer is adopted as proposed.

As an alternative to certifying that the mileage is actual or exceeds the mechanical limits, we proposed that if the odometer reading does not reflect the actual mileage and should not be relied upon, the transferor must continue to disclose this fact. We also proposed that this disclosure include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage. We received two comments about the warning notice. Delaware asserted that a warning notice would be burdensome because it would increase the required space on the reverse side of the title. From another perspective, NACAA applauded the addition of the warning notice which provides additional consumer

protection. NHTSA has adopted this requirement as proposed in the NPRM. The addition of a warning notice which may be as simple as "WARNING ODOMETER DISCREPANCY" will not increase the size of the title, but may appear in space which is normally available at the end of the certification statement. For an example of the spacing of the warning notice, see Appendices B and C.

In addition, we proposed to continue to require the transferee's signature. Although NHTSA has required the transferee's signature on the disclosure statement since 1977, we received many comments on this proposal because the disclosure will be, in many instances, on the title. NACAA, NADA and Comerica (an automobile leasing company) support this proposal. Other commenters had concerns. Arkansas asserted that requiring the signature of the transferee is neither expressed nor implied in the Truth in Mileage Act and is an "absolute misinterpretation of Section 2." Alabama stated that the purchaser is unavailable at the time the transaction is consummated and opposed this requirement.

Although the Truth in Mileage Act does not require the transferee's signature, it also was not intended to lessen the tools available to law enforcement officers in the enforcement of odometer laws. Again, we note that this is *not* a new proposal. Rather, it has been a requirement since 1977, authorized by the Motor Vehicle Information and Cost Savings Act. As noted in the preamble to the NPRM, NHTSA considers the transferee's signature to be essential because it is an acknowledgement that the purchaser is aware of the mileage or any problems with the odometer reading. The signature prevents the purchaser from later alleging that he was not informed of the mileage or that the mileage on the vehicle's odometer was different from that appearing on the odometer disclosure statement. Furthermore, the buyer's signature is important to investigative and prosecutorial efforts. Since we have expanded the period of time in which the mileage disclosure may be made, Alabama's concern has been addressed because, at some point in connection with the transfer of ownership, the purchaser will be available to sign the title.

Judging from the comments, some aspects of the proposed requirement for the transferee's signature were misunderstood. The Delaware Department of Motor Vehicles (Delaware) stated that the transferee should not be required to sign the disclosure statement if required to sign the document elsewhere. NHTSA agrees. If the transferee's signature is required to reassign title, and if the disclosure appears in the same section of the title as the reassignment, the title does not need to include another space for the transferee's signature. As NHTSA has said in the past, information concerning the disclosure need not be repeated if found elsewhere on the document. *See*

38 FR 2978 (1973). NAFA suggested that NHTSA consider adding a provision noting that an increase in mileage may have taken place prior to the signature of the transferee. NAFA was concerned that a "transferee may balk at attesting to" a disclosure statement if the odometer shows a higher reading. This final rule does not adopt NAFA's suggestion since the transferee does not attest to the disclosure statement, but rather acknowledges receipt of it.

We proposed to continue to require the transferor's current address, the vehicle's model and a reference to the Federal odometer law, including a statement of liability and penalties. Although the address, model and reference are required under the current regulation, they were the subject of some comments.

Noting that the disclosure would be on the title, Delaware feared that requiring the transferor's current address would increase the size of the title. As indicated by Appendix B, if the transferor's address is on the title, and normally it is on the face of the title, it does not have to be included again. Therefore, the titles should not increase in size and we have adopted the requirement for the transferor's current address as proposed.

With regard to the proposal to require a vehicle's model, Delaware asserted that many States do not include the model. Citing cost concerns, Delaware asked that a requirement for model apply to 1989 models and newer. The Oregon Department of Transportation Motor Vehicle Division (Oregon) noted that its legislature recently removed a model requirement from Oregon law relating to odometers. Oregon asserted that this information is obtainable through the Vehicle Identification Number (VIN) and should not be required to be listed separately.

Vehicle identifying information, including the model, is currently required so that the vehicle would be readily identifiable if the disclosure statement became separated from the other transfer documents. *See*, 38 FR 2979. This rationale is still valid since separate disclosure statements will continue to be issued by transferors of new vehicles which have not been previously titled and by transferors of vehicles titled on nonconforming titles during the phase-in period. Furthermore, the model helps individuals to verify the correctness of the VIN and two-thirds of the States already include the model on their titles. Therefore, we have adopted the proposal to require the model, which is consistent with the current regulation, into this final rule.

As for the reference to the Federal odometer law, we proposed that the disclosure statement "refer to the Motor Vehicle Information and Cost Savings Act and State law, where applicable, and shall state that incorrect information may result in civil liability and civil or criminal penalties." Delaware claimed that the wording is too lengthy and will never be read. NADA proposed to change this requirement to read

that “each document containing one or more odometer disclosures shall contain a statement in capital letters as follows: AN INACCURATE OR UNTRUTHFUL STATEMENT MAY MAKE YOU LIABLE FOR DAMAGES AND FOR CIVIL AND CRIMINAL PENALTIES UNDER APPLICABLE LAW.” NADA’s stated purpose in this proposal is to simplify the statement and make it more forceful. Requiring that it be stated only once on a multi-disclosure document will afford States the flexibility to combine titles with multi-assignment documents. NADA’s proposal was supported by the coalition.

While we have not adopted NADA’s proposal in form, we agree to simplify and strengthen the reference to the law and penalties. Therefore, the proposal is amended to require a reference to the “Federal odometer law” in lieu of the Motor Vehicle Information and Cost Savings Act. This is consistent with the agency’s opinion that the actual law need not always be cited. 45 FR 784 (1980). For clarification, we have added a requirement that the reference indicate that “failure to complete,” in addition to providing false information, will result in liability. To make the statement more forceful, references to “civil liability and civil or criminal penalties” will be amended to read “fines and/or imprisonment.” To allow for flexibility for States and transferors, reference to State law is discretionary. Finally, if the required information appears once on the document, it does not have to be repeated.

Section 580.5, as proposed, differed from the current section 580.4 in the following ways. We proposed in section 580.5(f) that the transferee, in addition to signing the odometer disclosure statement, print his name. Recognizing that the printed name is helpful in the course of an investigation to identify the person signing the statement where signatures are difficult to read, NACAA supported the proposal. On the other hand, NADA asserted that the requirement for the transferee’s printed name should be deleted as redundant with the proposed requirement for the transferee’s name and current address, section 580.5(c). NHTSA agrees that in some instances the provisions may result in the same information. However, the transferee whose name and address are required under section 580.5(c) may be a dealer, corporation or other business entity. The signature of these transferees is the signature of the employee or agent acting in their behalf. The employee or agent would print his name. Therefore, the requirements of section 580.5(f) are not redundant and will be adopted as proposed.

In section 580.5(c) we also proposed that the odometer reading cannot include tenths of miles. NACAA and NADA supported this proposal and no comments were received in opposition to it. Therefore, we have adopted this proposal in the final rule.

In addition, we proposed to shorten the odometer disclosure form by eliminating the second set of certifications. No comments were received on this proposal and it is adopted in this final rule.

While no one commented on the elimination of the second set of certifications, we received several proposals for additional certifications. An individual suggested that in order to provide as much information as possible in a formal manner to the transferee, the disclosure statement should include the following: “Optional: the correct mileage is _____.” While there is no prohibition against a seller providing this information, NHTSA sees no investigative or consumer benefit to be gained in adding this requirement which would outweigh the burden of including another statement on the title, in light of space limitations. A buyer can, and certainly should, request such information. Yet, anyone who has deliberately violated the odometer laws is likely to provide an untruthful statement. Therefore, NHTSA will not adopt this suggestion.

Another commenter suggested that a provision be added to require the transferor “to certify that the odometer was repaired or replaced, reset to zero, the mileage on the original odometer was _____, and that the mileage on the present odometer reflects the mileage on the vehicle in excess of that amount.” The commenter asserted that this disclosure would allow sellers to explain the odometer discrepancy and create a paper trail as a backup to the notice posted on the left door frame. Without this statement, the commenter felt that unscrupulous sellers could repair or replace the odometer, then simply disclose that the odometer reading is not the actual mileage. Due to space limitations, we must reject this suggestion. Although a shorter disclosure might sacrifice clarity to a degree, NHTSA regards this as an acceptable price for gaining the benefit of combined title and disclosure. Note that there is no prohibition against the seller advising the purchaser of the reason for certifying that the odometer reading does not reflect the actual mileage.

While the proposed regulation sets forth the information which must be disclosed, it also includes, in Appendices B and C, sample forms which may be used. Appendix B is a sample disclosure form which a State may wish to include on its titles. Appendix C is a sample disclosure form which may be used if a vehicle has not been previously titled such as a new vehicle or a vehicle imported into the United States from a foreign country. 3M endorsed the inclusion of Appendices B and C and noted that they provide standard formats. 3M suggested that the placement of information relevant to security, section 580.5(c)(1)-(5), be located consistently in one position on the certificate of title and on other ownership documents. To allow the States the maximum admin-

istrative discretion possible, we will not adopt 3M's suggestion, but have included sample forms in appendices B and C to the final rule. These appendices have been changed from the appendices as proposed to conform to the requirements of the final rule. We wish to repeat that the purpose of these appendices is to serve as examples; they do not introduce new requirements or restrictions into the rule.

Recognizing that titles for vehicles issued prior to the enactment of a State law or regulation implementing the title requirements of the final rule may not contain all the information required by this rule, in section 580.5(g) we proposed that the written disclosure be executed as a separate form when the title does not conform to the final rule. NADA supported the use of a separate disclosure statement when "old," nonconforming titles are involved in the transfer. However, the Chairman of the Consumer Affairs and Protection Committee of the New York State Assembly feared that this section creates a loophole. Discussing the disclosure information on the title, he noted that "to be effective, this information should appear on the title itself, because this document *must* accompany each vehicle transfer, and is recorded by most state Departments of Motor Vehicles. This may mean instituting a phase-in period for all States to develop titles containing appropriate spaces." Rather than creating a loophole, section 580.5(g) recognizes the necessity of a phase-in period. As noted in the preamble to the NPRM, the Truth in Mileage Act does not say that motor vehicles can only be licensed if the transferee includes with the application the transferor's title which includes a disclosure. Rather, the law states that only "...if that title contains the space referred to in paragraph (2)(A)(iii)..." would the transferor sign and date a disclosure statement. Therefore, section 580.5(g) is adopted in this final rule as proposed.

D. Power of Attorney

Prior to the issuance of the NPRM, NIADA asked whether a power of attorney could be granted so that the transferor could sign on behalf of the transferee to avoid any problems in making a disclosure on the title where the vehicle is subject to an existing lien. Although the proposed rule did not include a provision concerning powers of attorney, in the preamble to the proposed rules, we recognized that powers of attorney are necessary in transfers involving an incompetent or deceased owner. However, we emphasized that powers of attorney that allow the same person to sign a disclosure statement as both the transferor and transferee result in only one party to the transfer being aware of the previous mileage disclosures. This could jeopardize the integrity of the "paper trail" and defeat the purpose of the Act.

AAMVA agreed with our position, noting that where the transferee holds the power of attorney of

the transferor, the same party is signing the title as seller, to transfer ownership and to disclose mileage, and as the buyer. AAMVA stated that this situation is ripe for fraud if the person holding the power of attorney is intent on rolling back the vehicle's mileage. Several of AAMVA's member jurisdictions concurred in this position.

Wisconsin suggested that a new paragraph be added to section 580.5 providing that no person may sign a disclosure as both the transferor and transferee. Wisconsin also suggested that the additional paragraph provide that no transferor may give his power of attorney or otherwise appoint as the transferor agent, any agent or employee of the transferee for the purpose of executing an odometer disclosure statement.

An automobile dealer in an area with a large military population declared that the new law would preclude a member of the military from giving a spouse a power of attorney to sell a vehicle and to verify the odometer reading.

Other commenters, concerned that the title had to be present at the time of sale, hoped that the use of a power of attorney would ease the burden that title present might have imposed. NIADA noted that if the power of attorney is submitted with the old title when applying for a new title, and a copy is required to be maintained by the dealer, any alteration would be immediately apparent and the paper trail would be maintained. The coalition, as noted above, suggested the use of a special power of attorney which (i) is set forth by a secure process; (ii) contains the appropriate Federal odometer disclosure statement and (iii) is fully completed, dated and signed by the transferor. Upon receipt of the transferor's title, the initial transferee would negotiate the title and complete the transferor's statement based on the transferor's power of attorney and mileage disclosure thereon. The title, together with the power of attorney and all subsequent title reassignments, shall be presented with any application for title.

To guard against a situation ripe for fraud, we have adopted a new paragraph 580.5(h) which provides that no person may sign a disclosure statement as both the transferor and transferee in the same transaction. It also provides that no transferor may give his power of attorney or otherwise appoint as the transferor's agent, any transferee of the same vehicle in the same transaction for the purpose of executing an odometer disclosure statement. Conversely, no transferee may give his power of attorney or otherwise appoint as the transferee's agent, any transferor of the same vehicle in the same transaction for the purpose of executing an odometer disclosure statement.

We have not adopted the coalition's suggestion. The burden that a "title present" requirement might have presented has been alleviated since disclosure must now occur in connection with the transfer of owner-

ship. In addition, the integrity of the paper trail with a secure power of attorney would not be maintained because one party to the transaction would not see the title and the power of attorney could be easily discarded and a new one forged. Furthermore, this process would place a burden on State titling offices to review additional documentation, check for conformity of the information contained on the documents and maintain additional records.

Exemptions

We proposed a new section 580.6 which exempts certain transferors from issuing odometer disclosure statements. With one exception as noted below, this new section exempts the same transferors exempted by former section 580.5.

3M questioned why any exemptions are allowed, asserting that in 3M's opinion, the odometer reading of any vehicle, regardless of its age, weight, or method of sale, is a significant contributor to the vehicle's worth. In response to 3M's inquiry, NHTSA notes that the odometer reading is not used as a guide to the value of certain vehicles. For example, maintenance records have traditionally been relied upon as the principal guide to the condition of trucks and buses. Antique vehicles are primarily valued because of factors such as rarity and age rather mileage. 38 FR 2978 (1973).

Several Federal courts have reviewed NHTSA's authority to create exemptions and reached different conclusions concerning the validity of former section 580.5. *See, Witkowski v. Mack Trucks, Inc.*, 712 F.2d 1352 (11th Cir. 1983); *Barker v. Cawthon Motor Co.*, 629 F.2d 410 (5th Cir. 1980); *Mitchell v. White Motor Credit Corporation*, 627 F. Supp. 1241 (M.D. Tenn. 1986); *Davis v. Dils Motor Co.*, 566 F. Supp. 1360 (S.D.W. Va. 1983). Nevertheless, as noted in the preamble to the NPRM, while some courts have determined that NHTSA's authority to create exemptions may be limited, we believe that NHTSA has the authority to create exemptions for transferors of vehicles for which the odometer reading is not relied upon as an indicator of vehicle mileage or condition. 47 FR 51885 (1982). Therefore, we have adopted section 580.6 as proposed, with one exception.

We proposed to exempt a transferor of a vehicle that is twenty-five years old or older from the requirements of issuing a disclosure statement. We received numerous requests to lower the vehicle age. AAMVA, several of AAMVA's member jurisdictions and the coalition suggested that the exemption be given to a transferor of a vehicle that is ten years old or older. This suggestion is based on studies done in Wisconsin and Iowa which indicate that the incidence of odometer tampering on vehicles over ten model years old is disproportionately small as compared to the vehicle population represented by that age group. The commenters also noted that the selling price of

vehicles over ten years old is not typically based on the odometer reading. AAMVA and several of its members felt that extending the exemption to the transferor of a vehicle ten years old and older would not frustrate the Congressional intent behind the odometer laws since the odometer reading on a vehicle of this age is not used to determine the condition or value of the vehicle. NACAA recommended that the absolute maximum age of vehicle for which the transferor should be required to issue an odometer statement is fifteen years. Based on a study the California Department of Motor Vehicles conducted for NHTSA in 1981, the Director of the Department proposed that the regulation be changed to exempt transferors of vehicles that are six years old and older. Oregon noted that the State legislature, after expressing strong concern about the cost effectiveness of requiring odometer disclosures on vehicles older than eight years, amended Oregon law to require odometer disclosure information only for vehicles eight years old and newer.

NHTSA has reconsidered its proposed requirement in response to these comments. Purchasers of vehicles six and eight years old still rely on the odometer reading to determine the condition and value of the vehicle. While the California study may indicate that odometer tampering is not as prevalent in vehicles six years old and older, the study concerned leased vehicles and does not represent the total used car population. For vehicles over 10 years old, the value is mostly determined by the overall condition and appearance, not primarily mileage. Accordingly, the final rule has been changed to exempt a transferor of a vehicle that is ten years old and older.

Finally, we have not adopted the proposal of American Bankers Association which suggested that the rule exempt from the disclosure requirements, lessors when selling the leased vehicle to the lessee at the end of the lease period. To adopt this suggestion would permit an unscrupulous lessee to purchase the car, roll back the odometer, and sell the car to an unsuspecting buyer for more than its actual value. The lessee's purchaser would be unable to ascertain the veracity of the disclosure statement he receives from the lessee since there would be no previous disclosure record.

Leased Vehicles

In accordance with the Congressional mandate, we proposed a new section 580.7 applicable to leased vehicles. Under the proposed section 580.7, lessors were required to provide written notice to the lessee that ownership of the vehicle is being transferred, that the lessee is required by law to provide the lessor with a written disclosure regarding the mileage and the penalties for noncompliance. The American Automotive Leasing Association (AALA) urged NHTSA to delete the requirement that "ownership

of the vehicle is being transferred,” since notifying lessees at that time would be financially burdensome. AALA claimed that a rule requiring a notice that is contemporaneous with the decision to terminate the lease and a separate notice for each car is unwarranted. Rather, AALA and PHH requested that the regulations permit flexibility as to when the lessor gives notice to the lessee of the lessee’s obligation to make the required disclosure. Both noted that there are various possibilities for notifying lessees. The notification could be incorporated into the lease agreement, in mailings sent to the clients throughout the year and in forms completed by the lessee to initiate transfer. We have considered these comments and have determined that the requirement that the lessor give notice to the lessee that “ownership of the vehicle is being transferred” is not required by the law and may result in an unnecessary burden for lessors. Therefore, we adopt AALA’s proposal and this requirement has been deleted from the final rule. This will allow flexibility as to when the notice of the lessee’s disclosure requirements and penalties for noncompliance is given. Furthermore, we will not require a separate notice for each vehicle. Should this flexibility impede or delay investigative action, further rulemaking may need to be undertaken on this matter.

As noted above, the proposed rule also provided that the lessor must give written notice to the lessee that the lessee is required by law to disclose the mileage of the lease vehicle and the penalties for failure to disclose the information. PHH emphasized that the penalties for lessee noncompliance should be explicitly stated in the notice and recommended that Appendix D, the Disclosure Form for Leased Vehicles, be amended to explicitly state the nature of the civil or criminal penalties to which a lessee is subject for failure to comply. PHH believes that a more explicit statement of penalties will help to stress the lessee’s risk in noncompliance, will encourage greater accuracy of odometer readings and will motivate the prompt return of the lessee disclosure form to the lessor. We agree with PHH’s comments. Therefore, consistent with our decision to amend the citation to the law under section 580.5(c), section 580.7(a) will require that the lessor’s notice to the lessee contain a reference to the Federal odometer law and state that failing to complete the disclosure or providing false information may result in fines and/or imprisonment. For purposes of consistency, we will not require a more detailed statement. However, lessors may include additional information such as an explicit statement of the fines and imprisonment term provided by law. Accordingly, we have amended the reference to the law contained in Appendix D and note that Appendix D is only an example of the minimum requirements under the law.

The disclosure required to be made by the lessee under our proposal paralleled that made by the transferor. It required that the person making the disclosure print his name, provide the current odometer reading (not to include tenths) and date the statement. In addition, we proposed that the disclosure include the lessee’s name and current address; the lessor’s name and current address; the identity of the vehicle including its make, model, year, body type and vehicle identification number; and the signature of the lessor. We received no comments on these proposals and they have been incorporated into this final rule.

We also proposed that the disclosure include the date that the lessor notified the lessee of disclosure requirements and the date that the completed disclosure was received by the lessor. Delaware asserted that it did not understand the importance of these dates. According to Delaware, the date requirement merely necessitates more paper work and filing of records. NADA requested, without comment, the elimination of these date requirements. We will not grant NADA’s request. These dates are important for investigative purposes. Our experience shows that dealers and distributors who have been required to maintain odometer disclosure statements under our regulations, upon request for those records, consistently ask investigators for the date of the record. Requiring these dates, in addition to the date of the statement, will aid in the investigation of allegations that the lessor never notified the lessee or that the lessee never gave the lessor a statement. Therefore, subsections 580.7(b)(7) and (8) are adopted as proposed.

In addition, we proposed that the lessee certify whether the odometer reading reflects the actual mileage, whether it reflects the amount of mileage in excess of the designed mechanical limit or whether it is not the actual mileage. As it did with regard to the disclosure by the transferor, NADA urged NHTSA to eliminate the requirement that the disclosure of mileage is in excess of the designed mechanical limit of the odometer. Again, we have not adopted NADA’s suggestion. As noted above, to allow someone with a vehicle having over 100,000 miles to certify that the odometer does not reflect the actual mileage permits oral misrepresentations as to the vehicle’s actual mileage. Furthermore, while not specifically referencing the requirement as it applied to leased vehicles, MADA expressed concern with the requirement that a person certify that “the odometer reading reflects the mileage in excess of the designed mechanical limits.” NHTSA has addressed this concern above as it relates to the disclosure by the transferor. For the same reasons, we have not adopted MADA’s suggestion to amend the statement. The certification requirements are adopted as proposed.

To implement section 2(e) of the Truth in Mileage Act, section 408 of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1988(e), we proposed to permit a lessor who transfers ownership of a vehicle, without obtaining possession of the vehicle, to disclose, on the title, the mileage indicated by the lessee unless he has reason to believe that the lessee's disclosure does not reflect the actual mileage of the vehicle. PHH noted that it is not unusual for vehicles to be driven substantial distances by the lessee after the lessee's disclosure statement is received by the lessor. PHH asked whether it is NHTSA's intention for lessors to certify, in connection with the transfer of ownership, that the odometer does not accurately reflect the mileage of the vehicle. If the lessee had certified that the odometer reading reflected the actual mileage the vehicle had traveled, it is not NHTSA's intention that lessors indicate that the odometer reading does not reflect the actual mileage. When the lessee certifies that the odometer reading reflects the actual mileage, the lessor may also certify that the odometer reading reflects the actual mileage. This certification would be based upon the lessee's statement and the lessor's knowledge of the additional mileage.

Several commenters raised issues that had not been considered in the NPRM. The National Vehicle Leasing Association (NVLA), AALA and PHH noted that the proposed rule did not refer to the situation where the lessee fails to provide the lessor with a disclosure. PHH requested that NHTSA address the action a lessor is expected to take when a lessee fails to provide an odometer statement or fails to provide a statement in a reasonable time, and what remedies or sanctions apply. AALA requested that NHTSA affirmatively state that in cases where the lessor has notified the lessee but the lessee has failed to provide a disclosure, the lessor may sell the vehicle, making the appropriate disclosure. NVLA took the AALA request one step further, by suggesting what constitutes an appropriate disclosure. NVLA proposed that where the vehicle is to be transferred to the lessee, the lessor should be permitted to complete the transaction and certify that the mileage information is "unknown." If the lessee failed to provide a disclosure and the lessor is selling the vehicle to a third party, NVLA proposed that the lessor should be permitted to certify that to the best of the lessor's knowledge, the odometer reading, provided to the lessor by the third party purchaser, reflects the actual mileage.

Congress expressly stated that "[i]f the lessee fails to comply, the lessor who has provided the required notice is not intended to be precluded from transferring ownership of the vehicle." H.R. Rep. 833, 99th Cong., 2nd Sess. 33 (1986). Therefore, the lessor may sell the vehicle and make the disclosure based upon available information. When the lessor is selling the vehicle to the lessee, we will not permit the lessor to

complete the transaction and certify that the mileage is unknown. The lessor has leverage in this situation and may retain possession of the title to influence the lessee to provide a disclosure. When the lessor is selling a vehicle to a third party purchaser, the lessor must make a certification to the best of his knowledge based upon the available information, including condition reports, maintenance receipts, previous history of lessee vehicle returns and similar business records. To permit a lessor who does not take possession of a vehicle to routinely certify that the odometer reading reflects the actual mileage, as suggested by NVLA, opens the door to fraud on the part of the third party purchaser who obtains possession of the vehicle from the lessee. In this situation, the third party purchaser could tell the lessor the odometer reading is less than it actually is, resulting in an inaccurate statement by the lessor, and then roll back the odometer.

Finally, PHH requested that NHTSA address the remedies that are available to the lessor against a lessee who fails to provide a disclosure. Under section 409 of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1989, the lessor may bring a civil action against the lessee. Note that under this section, the lessor must prove an intent to defraud. If the lessor included a provision concerning the disclosure in the lease agreement or contract, the lessor may have an additional cause of action. The requirement that lessees provide a disclosure is also enforceable by the chief law enforcement officer in the State where the violation occurred and by the Federal government.

Record Retention

The NPRM proposed a new section 580.8 concerning the retention of odometer disclosure statements by motor vehicle dealers, distributors and lessors. This proposed section increased, from four to five years, the length of time dealers and distributors who are required by this part to issue an odometer disclosure statement shall retain odometer disclosure statements. Lessors shall retain for five years following the date they transfer ownership of the leased vehicle, the odometer statement they receive from their lessee. These dealers, distributors and lessors shall retain the original or a photostat, carbon or other facsimile copy of each odometer statement they issue and receive. The proposal was phrased broadly to include any media by which such information may be stored, provided there is no loss of information.

Some commenters felt that the extension to five years was both reasonable and logical given the five year statute of limitations for criminal violations of the Federal odometer laws. Others raised questions concerning the necessity of retaining, in whole or in part, copies of disclosure statements.

One commenter asserted that since the odometer disclosure statement will be on the title, it will be

cumbersome and difficult for the transferor to retain a copy. The commenter stated that it is unlikely that States will provide multiple copy titles and that a large number of dealers do not have access to a photocopy machine. This commenter also claimed that it is against the law in California, and possibly in other States, to photocopy a title document. NHTSA does not find this retention requirement to be overly burdensome. In light of increased technology, portable photocopy equipment is available at reasonable prices. The rule allows flexibility in retention, provided there is no loss of information. Finally, while it may be illegal to possess as true or genuine a false or forged document, it does not appear to be illegal to copy a title solely for the purpose of maintaining records. Alan Metier of the California Department of Motor Vehicles, Legal Office, stated that neither the California Vehicle Code nor the California Government Code prohibits the photocopying of titles for record retention purposes. In the course of its investigations, NHTSA has received copies of titles from auto auctions, dealers, leasing companies and State departments of motor vehicles, including the California Department of Motor Vehicles.

NAFA asked whether the transferor is required to retain a copy of the full disclosure signed by the transferee or if he is only required to maintain a copy of his disclosure. The rule requires the transferor to retain a copy of the full disclosure, including the transferee's signature. In addition, for purposes of meeting the requirement to retain a copy of the disclosure statement which includes the buyer's signature, AALA asked NHTSA to allow the transferor who is also a lessor to obtain a power of attorney from the buyer authorizing the transferor to sign the mileage disclosure on behalf of the buyer. Because this would allow the transferor to sign as both the transferor and transferee, thus creating a situation ripe for fraud, AALA's suggestions has not been adopted.

PHH asserted that it is not reasonable to place a legal requirement on the transferor to retain records over which he does not have control and that any transferee with intent to commit fraud by tampering with the title document, will simply alter the document after the transferor's copy has been made. PHH argued that since the States will be receiving and retaining fully executed title documents, there seems to be little net benefit to require transferors to duplicate these records. Therefore, PHH requested that the final rule require only that the transferor retain a copy of the disclosure statement prior to release of the document to the transferee. AALA suggested that the regulation allow a transferor who is also a lessor to fulfill the retention requirements when he retains a copy of the disclosure statement which he forwards for the buyer's signature and requests the buyer to sign the statement and return a copy.

We have not adopted the requests of AALA or PHH. Requiring the transferor to retain a copy of the disclosure signed by the transferee is essential to enforcement. It prevents a buyer from altering the mileage and later alleging that the altered mileage is the mileage he received from the transferor, since the transferor would have a copy of the disclosure with the higher mileage and the transferee's signature. This unaltered copy would not be on file with the State titling office. In addition, requiring the transferor to retain a copy of the disclosure signed by the transferee protects the transferor. With regard to the reasonableness of a legal requirement on the transferor to retain records over which he does not have control, NHTSA assesses civil penalties for failure to retain records in accordance with section 412 of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1990b. This assessment takes into account the nature, circumstances, extent and gravity of the violation of the retention requirement committed, and other matters as justice may require.

Consistent with the requirements of the Truth in Mileage Act, we also proposed the addition of a new section 580.9 which concerns the odometer record retention by auction companies. We proposed that each auction company retain, for five years, the following information: the name of the most recent owner on the date the auction took possession of the motor vehicle, the name of the buyer, the vehicle identification number and the odometer reading on the date the auction company took possession of the motor vehicle. This information can be retained in any way that is systematically retrievable. We did not propose to require that this information be included on any special form, but noted that it may be part of the auction invoice or other document currently used by auction companies or be maintained as a portion of a computer data base.

The New Jersey State Police (New Jersey) questioned the requirement that auction companies retain the odometer reading on the date which the auction "took possession of the vehicle." The commenter was concerned that auctions could assert that they do not "take possession," but merely act as a broker between the buyer and seller. In lieu of a requirement that the odometer reading on the date the auction took possession be retained, New Jersey proposed that the reading on the date of sale be retained.

We have not adopted New Jersey's proposal. While an auction does not take ownership of vehicles, it does routinely take physical possession of them. When the cars are registered for sale, the keys to each vehicle are given to the auction which prepares the cars for auction and drives them onto the auction block. Furthermore, the language in the rule is consistent with the provisions of the Truth in Mileage Act.

NAAA, while not specifically addressing the retention requirements as they relate to auctions, did

declare that the retention requirements are more than reasonable and are necessary to enable successful prosecutions. No other comments were received on this proposal and it has been adopted in the final rule.

*Procedures for State Requests
for Assistance, Approval or Extension*

Section 408(d)(1) and (2) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1988(d)(1) and (2), requires the Secretary of Transportation to assist a State in revising its laws to comply with the new disclosure requirements for transferors and transferees, upon "application" from the State. In response to this statutory mandate, the agency proposed a new section 580.10 which sets forth the procedures a State may follow to apply for technical assistance. No comments were received concerning the procedures for requests for assistance and they are adopted in the final rule as proposed.

Section 408(f) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. § 1988(f), states that subsection (d), concerning motor vehicle titles, and subsection (e), concerning lessors and lessees, shall apply in a State unless the State has in effect alternate motor vehicle mileage requirements approved by the Department. We proposed, in a new section 580.11, that a State may petition for an exemption from the disclosure requirements and stated that notice of either grant or denial of a petition for approval of alternate motor vehicle disclosure requirements would be issued to the petitioner. We received no comments on this section. However, for consistency, and to better reflect the provisions of the Truth in Mileage Act, we have changed the language in the title of this section and its subsection (a) from "exemption from disclosure requirements" to "approval of alternate motor vehicle disclosure requirements." In all other respects, the proposal is adopted in this final rule.

We proposed a new section 580.12 which specified the procedures that may be followed by a State to request an extension of time in the event that it requires additional time beyond April 29, 1989, to conform its laws to the Motor Vehicle Information and Cost Savings Act and this part. The proposed section 580.12 also allowed for the renewal of an extension of time.

The agency received three comments on proposed section 580.12. NACAA recommended that NHTSA not extend the compliance deadline except where a need has been demonstrated along with significant evidence that the State is making progress toward compliance through realistic efforts calculated to meet the compliance date. The association stressed that the rule cannot really be effective until all States are in compliance. If one State does not require mileage disclosures on the title, title laundering will

continue. Arkansas explained that it had just purchased a two year supply of titles and noted that a severe financial burden would result if it was prohibited from using them. The Motor Car Dealers Association of Southern California (MCDASC) asked the agency to postpone certain provisions of section 580.5.

NHTSA has considered these comments. Nevertheless, the proposal will be adopted into this final rule. Section 2 (c) of the Truth in Mileage Act allows for extension of time upon a request from a State. Consistent with the statute, we will provide extensions of time in the event that any State needs additional time in revising its laws to meet the new Federal criteria, beyond April 29, 1989, the new law's effective date. Because the statute requires NHTSA to ensure that the State is making reasonable efforts to achieve compliance, we must deny MCDASC's request for a blanket extension of time. We will only consider requests on a State by State basis. NHTSA agrees with NACAA that noncompliance with the Federal odometer laws and this rule would allow title laundering to continue. However, in light of the statutory guidelines, we will not amend the procedures set forth in the proposal. Finally, with regard to Arkansas' concern about discarding titles it may have on April 29, 1989, the agency will take into account financial and administrative burdens and will make every effort to grant reasonable extensions of time so that States may expend their current supply of titles.

Federalism Assessment

This rule has federalism implications affecting the relationship between the national government and the States. I certify that it has been assessed in light of the principles, criteria and requirements as outlined in Executive Order 12612. By limiting the effects on the States to the minimum required by the law, this final rule furthers the principles of federalism established by the Framers of the Constitution while striking an appropriate level of Federal involvement. Odometer fraud is national in scope with motor vehicles frequently being transferred over State lines in order to "wash" the titles. For this reason, Congress directed NHTSA to determine methods most effective for combatting the problem, through the implementation of the Truth in Mileage Act of 1986. NHTSA has consulted with the States to implement the law and has examined the comments submitted by approximately thirty-four States, AAMVA, NACAA and NOEA. While this rule requires that titles issued by the States be secure, and include a mileage reading and a space for the transferee to make a mileage disclosure at the time of a future transfer, this rule is consistent with the statutory mandate and allows the States the maximum administrative discretion possible in comply-

ing with these requirements. We have not required the States to seek our concurrence in an alternative method of document security beyond those listed in Appendix A nor have we required the States to include the disclosure information in a specific format. It is estimated that this rule will impose an additional cost on the States. The likely source of funding for the States will be from revenues generated by increasing the cost of titling motor vehicles. Over the past ten years, the States have demonstrated their ability to fulfill the purposes of this rule by reviewing and amending their titles in attempts to deter odometer fraud.

In consideration of the foregoing, Part 580 of Title 49 of the Code of Federal Regulations is revised to read as follows:

PART 580—ODOMETER DISCLOSURE REQUIREMENTS

Sec.

- 580.1 Scope
- 580.2 Purpose
- 580.3 Definitions
- 580.4 Security of Title Documents
- 580.5 Disclosure of Odometer Information
- 580.6 Exemptions
- 580.7 Disclosure of Odometer Information for Leased Motor Vehicles
- 580.8 Odometer Disclosure Statement Retention
- 580.9 Odometer Record Retention for Auction Companies
- 580.10 Application for Assistance
- 580.11 Petition for Approval of Alternate Disclosure Requirements
- 580.12 Petition for Extension of Time
- Appendix A to Part 580 Secure Printing Processes and Other Secure Processes
- Appendix B to Part 580 Disclosure Form for Title
- Appendix C to Part 580 Separate Disclosure Form
- Appendix D to Part 580 Disclosure Form for Leased Vehicles

Authority: 15 U.S.C.1988; delegation of authority at 49 CFR 1.50(f) and 501.8(e)(1).

§580.1 *Scope.*

This part prescribes rules requiring transferors and lessees of motor vehicles to make written disclosure to transferees and lessors respectively, concerning the odometer mileage and its accuracy as directed by sections 408(a) and (e) of the Motor Vehicle Information and Cost Savings Act as amended, 15 U.S.C. 1988 (a) and (e). In addition, this part prescribes the rules requiring the retention of odometer disclosure statements by motor vehicle dealers, distributors and lessors and the retention of certain other information

by auction companies as directed by sections 408(g) and 414 of the Motor Vehicle Information and Cost Savings Act as amended, 15 U.S.C. 1990 (d) and 1988 (g).

§580.2 *Purpose.*

The purpose of this part is to provide purchasers of motor vehicles with odometer information to assist them in determining a vehicle's condition and value by making the disclosure of a vehicle's mileage a condition of title and by requiring lessees to disclose to their lessors the vehicle's mileage at the time the lessors transfer the vehicle. In addition, the purpose of this part is to preserve records that are needed for the proper investigation of possible violations of the Motor Vehicle Information and Cost Savings Act and any subsequent prosecutorial, adjudicative or other action.

§580.3 *Definitions.*

All terms defined in sections 2 and 402 of the Motor Vehicle Information and Cost Savings Act are used in their statutory meaning. Other terms used in this part are defined as follows:

"Lessee" means any person, or the agent for any person, to whom a motor vehicle has been leased for a term of at least 4 months.

"Lessor" means any person, or the agent for any person, who has leased 5 or more motor vehicles in the past 12 months.

"Mileage" means actual distance that a vehicle has traveled.

"Secure printing process or other secure process" means any process which deters and detects counterfeiting and/or unauthorized reproduction and allows alterations to be visible to the naked eye.

"Transferee" means any person to whom the ownership in a motor vehicle is transferred, or any person who, as agent, accepts transfer of ownership in a motor vehicle for another, by purchase, gift, or any means other than by creation of a security interest.

"Transferor" means any person who transfers his ownership or any person who, as agent, transfers the ownership of another, in a motor vehicle by sale, gift, or any means other than by creation of a security interest.

§580.4 *Security of Title Documents.*

Each title shall be set forth by means of a secure printing process or other secure process. In addition, any other documents which are used to reassign the title shall be set forth by a secure process.

§580.5 *Disclosure of Odometer Information.*

(a) Each title, at the time it is issued to the transferee, must contain the mileage disclosed by the

transferor when ownership of the vehicle was transferred and contain a space for the information required to be disclosed under paragraphs (c), (d), (e) and (f) of this section at the time of future transfer.

(b) Any documents which are used to reassign a title shall contain a space for the information required to be disclosed under paragraphs (c), (d), (e) and (f) of this section at the time of transfer of ownership.

(c) In connection with the transfer of ownership of a motor vehicle, each transferor shall disclose the mileage to the transferee in writing on the title or on the document being used to reassign the title. This written disclosure must be signed by the transferor, including the printed name, and contain the following information:

- (1) The odometer reading at the time of transfer (not to include tenths of miles);
- (2) The date of transfer;
- (3) The transferor's name and current address;
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model, year, and body type, and its vehicle identification number.

(d) In addition to the information provided under paragraph (c) of this section, the statement shall refer to the Federal law and shall state that failure to complete or providing false information may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(e) In addition to the information provided under paragraphs (c) and (d) of this section,

- (1) The transferor shall certify that to the best of his knowledge the odometer reading reflects the actual mileage, or;
- (2) If the transferor knows that the odometer reading reflects the amount of mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or
- (3) If the transferor knows that the odometer reading differs from the mileage and that the difference is greater than that caused by odometer calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage, and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(f) The transferee shall sign the disclosure statement and print his name.

(g) If the vehicle has not been titled or if the title does not contain a space for the information required, the written disclosure shall be executed as a separate document.

(h) No person shall sign an odometer disclosure statement as both the transferor and the transferee in the same transaction.

§580.6 Exemptions.

Notwithstanding the requirements of §580.5:

(a) A transferor of any of the following motor vehicles need not disclose the vehicle's odometer mileage:

- (1) A vehicle having a Gross Vehicle Weight Rating, as defined in §571.3 of this title, of more than 16,000 pounds;
- (2) A vehicle that is not self-propelled;
- (3) A vehicle that is 10 years old or older; or
- (4) A vehicle sold directly by the manufacturer to any agency of the United States in conformity with contractual specifications.

(b) A transferor of a new vehicle prior to its first transfer for purposes other than resale need not disclose the vehicle's odometer mileage.

§580.7 Disclosure of Odometer Information for Leased Motor Vehicles.

(a) Before executing any transfer of ownership document, each lessor of a leased motor vehicle shall notify the lessee in writing that the lessee is required to provide a written disclosure to the lessor regarding the mileage. This notice shall contain a reference to the federal law and shall state that failure to complete or providing false information may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(b) In connection with the transfer of ownership of the leased motor vehicle, the lessee shall furnish to the lessor a written statement regarding the mileage of the vehicle. This statement must be signed by the lessee and, in addition to the information required by paragraph (a) of this section, shall contain the following information:

- (1) The printed name of the person making the disclosure;
- (2) The current odometer reading (not to include tenths of miles);
- (3) The date of the statement;
- (4) The lessee's name and current address;
- (5) The lessor's name and current address;
- (6) The identity of the vehicle, including its make, model, year, and body type, and its vehicle identification number;
- (7) The date that the lessor notified the lessee of disclosure requirements;
- (8) The date that the completed disclosure statement was received by the lessor; and
- (9) The signature of the lessor.

(c) In addition to the information provided under paragraphs (a) and (b) of this section,

- (1) The lessee shall certify that to the best of his knowledge the odometer reading reflects the actual mileage; or

- (2) If the lessee knows that the odometer reading reflects the amount of mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or
- (3) If the lessee knows that the odometer reading differs from the mileage and that the difference is greater than that caused by odometer calibration error, he shall include a statement that the odometer reading is not the actual mileage and should not be relied upon.

(d) If the lessor transfers the leased vehicle without obtaining possession of it, the lessor may indicate on the title the mileage disclosed by the lessee under paragraph (b) and (c) of this section, unless the lessor has reason to believe that the disclosure by the lessee does not reflect the actual mileage of the vehicle.

§580.8 Odometer Disclosure Statement Retention.

(a) Dealers and distributors of motor vehicles who are required by this part to execute an odometer disclosure statement shall retain for five years a photostat, carbon or other facsimile copy of each odometer mileage statement which they issue and receive. They shall retain all odometer disclosure statements at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval.

(b) Lessors shall retain, for five years following the date they transfer ownership of the leased vehicle, each odometer disclosure statement which they receive from a lessee. They shall retain all odometer disclosure statements at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval.

§580.9 Odometer Record Retention for Auction Companies.

Each auction company shall establish and retain at its primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval, for five years following the date of sale of each motor vehicle, the following records:

- (a) The name of the most recent owner (other than the auction company);
- (b) The name of the buyer;
- (c) The vehicle identification number; and
- (d) The odometer reading on the date which the auction company took possession of the motor vehicle.

§580.10 Application for Assistance.

(a) A State may apply to NHTSA for assistance in revising its laws to comply with the requirements of 408(d)(1) and (2) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. 1988(d)(1) and (2) and §§580.4 and 580.5 of this part.

- (b) Each application filed under section shall—
 - (1) Be written in the English language;
 - (2) Be submitted, to the Office of Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590;
 - (3) Include a copy of current motor vehicle titling and/or disclosure requirements in effect in the State; and
 - (4) Include a draft of legislation or regulations intended to amend or revise current State motor vehicle titling and/or disclosure requirements to conform with Federal requirements.

(c) The agency will respond to the applicant, in writing, and provide a list of the Federal statutory and/or regulatory requirements that the State may have failed to include in its proposal and indicate if any sections of the proposal appear to conflict with Federal requirements.

§580.11 Petition for Approval of Alternate Disclosure Requirements.

(a) A State may petition NHTSA for approval of disclosure requirements which differ from the disclosure requirements of §§580.5 and 580.7 of this part.

- (b) Each petition filed under this section shall—
 - (1) Be written in the English language;
 - (2) Be submitted, to the Office of Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590;
 - (3) Set forth the motor vehicle disclosure requirements in effect in the State, including a copy of the applicable State law or regulation; and
 - (4) Explain how the State motor vehicle disclosure requirements are consistent with the purposes of the Motor Vehicle Information and Cost Savings Act.

(c) Notice of either a grant or denial of a petition for approval of alternate motor vehicle disclosure requirements is issued to the petitioner. The effect of a grant of a petition is to relieve a State from responsibility to conform the State motor vehicle titles with §§580.5 and 580.7 of this part during the time of the extension. The effect of a denial is to require a State to conform to the requirements of §§580.5 and 580.7 of this part until such time as the NHTSA approves any alternate motor vehicle disclosure requirements.

§580.12 Petition for Extension of Time.

(a) If a State cannot conform its laws to achieve compliance with this part by April 29, 1989, the State may petition for an extension of time.

- (b) Each petition filed under this section shall—
 - (1) Be written in the English language;
 - (2) Be submitted, by February 28, 1989, to the Office of Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590;

(3) Set forth a chronological analysis of the efforts the State has taken to meet the deadline, the reasons why it did not do so, the length of time desired for extension and a description of the steps to be taken while the extension is in effect.

(c) Notice of either the grant or denial of the petition is issued to the petitioner and will be published in the *Federal Register*.

(d) A petition for a renewal of an extension of time must be filed no later than 30 days prior to the termination of the extension of time granted by the Agency. A petition for a renewal of an extension of time must meet the same requirements as the original petition for an extension of time.

(e) If a petition for a renewal of the extension of time which meets the requirements of §580.12(b) is filed, the extension of time will continue until a decision is made on the renewal petition.

Appendix A — Secure Printing Processes and Other Secure Processes

1. Methods to deter or detect counterfeiting and/or unauthorized reproduction.

(a) Intaglio printing—a printing process utilized in the production of bank-notes and other security documents whereby an engraved plate meets the paper under extremely high pressure forcing the paper into the incisions below the surface of the plate.

(b) Intaglio Printing With Latent Images—a printing process utilized in the production of bank-notes and other security documents whereby an engraved plate meets the paper under extremely high pressure forcing the paper into the incisions below the surface of the plate. The three dimensional nature of intaglio printing creates latent images that aid in verification of authenticity and deter counterfeiting.

(c) High Resolution Printing—a printing process which achieves excellent art clarity and detail quality approaching that of the intaglio process.

(d) Micro-line Printing—a reduced line of type that appears to be a solid line to the naked eye but contains readable intelligence under strong magnification.

(e) Pantograph Void Feature—wording incorporated into a pantograph by varying screen density in the pantograph. The wording will appear when attempts are made to photocopy on color copiers.

(f) Hologram—a defraction foil substrate, produced from a negative which was made by splitting a laser beam into two separate beams to produce a three dimensional effect.

(g) Security Paper—paper containing a security watermark and/or a security thread.

2. Methods to allow alterations to be visible to the naked eye.

(a) Erasure Sensitive Background Inks—a process whereby the text is printed in a dark color ink over a fine line erasure-sensitive prismatic ink tint.

(b) Security Lamination—retro-reflective security laminate is placed over vital information after it has been entered to allow for detection of attempts to alter this information.

(c) Security Paper—paper which has been chemically treated to detect chemical alterations.

Appendix B to Part 580—Disclosure Form for Title.

ODOMETER DISCLOSURE STATEMENT

Federal law (and State law, if applicable) requires that you state the mileage in connection with the transfer of ownership. Failure to complete or providing a false statement may result in fines and/or imprisonment.

I state that the odometer now reads _____
(No Tenths)

miles and to the best of my knowledge that it reflects the actual mileage of the vehicle described herein, unless one of the following statements is checked.

— (1) I hereby certify that to the best of my knowledge the odometer reading reflects the amount of mileage in excess of its mechanical limits.

— (2) I hereby certify that the odometer reading is NOT the actual mileage. **WARNING—ODOMETER DISCREPANCY.**

(Transferor's Signature) (Transferee's Signature)

(Printed Name) (Printed Name)

Date of Statement _____

Transferee's Name _____

Transferee's
Address _____
(Street)

(City) (State) (ZIP Code)

Appendix C to Part 580—Separate Disclosure Form

ODOMETER DISCLOSURE STATEMENT

Federal law (and State law, if applicable) requires that you state the mileage upon transfer of ownership. Failure to complete or providing a false statement may result in fines and/or imprisonment.

I, _____ state that the odometer
(Transferor's name, Print)
now reads _____ miles and to the best of my
(no tenths)
knowledge that it reflects the actual mileage of the
vehicle described below, unless one of the following
statements is checked.

___ (1) I hereby certify that to the best of my
knowledge the odometer reading reflects the amount
of mileage in excess of its mechanical limits.

___ (2) I hereby certify that the odometer reading is
NOT the actual mileage. WARNING—ODOMETER
DISCREPANCY.

Make _____ Model _____
Body Type _____
Vehicle Identification Number _____
Year _____

(Transferor's Signature)

(Printed Name)

Transferor's
Address _____
(Street)

(City) (State) (ZIP Code)

Date of Statement _____

(Transferee's Signature)

(Printed Name)

Transferee's Name _____
Transferee's
Address _____
(Street)

(City) (State) (ZIP Code)

Appendix D to Part 580—Disclosure Form for Leased Vehicle

ODOMETER DISCLOSURE STATEMENT (LEASED VEHICLE)

Federal law (and State law, if applicable) requires
that the lessee disclose the mileage to the lessor in
connection with the transfer of ownership. Failure to
complete or making a false statement may result in
fines and/or imprisonment. Complete disclosure form
below and return to lessor.

I, _____ state
(name of person making disclosure, Print)
that the odometer now reads _____ miles and to
(No Tenths)

the best of my knowledge that it reflects the actual
mileage of the vehicle described below, unless one of
the following statements is checked.

___ (1) I hereby certify that to the best of my
knowledge the odometer reading reflects the amount
of mileage in excess of its mechanical limits.

___ (2) I hereby certify that the odometer reading is
NOT the actual mileage.

Make _____ Model _____

Body Type _____

Vehicle Identification Number _____

Year _____

Lessee's
Name _____

Lessee's
Address _____
(Street)

(City) (State) (ZIP Code)

Lessee's
Signature _____

Date of Statement _____

Lessor's
Name _____

Lessor's
Address _____
(Street)

Lessor's
Signature _____

Issued on August 2, 1988

(City) (State) (ZIP Code)

Date Disclosure Form sent to

Lessee _____

Diane K. Steed
Administrator

Date Completed Disclosure Form Received from

Lessee _____

53 F.R. 29464
August 5, 1988

PREAMBLE TO AN AMENDMENT TO PART 580

Odometer Disclosure Law

(Docket No. 87-09; Notice 6)

RIN: 2127-AC42

ACTION: Final rule.

SUMMARY: This final rule amends the provisions of the odometer disclosure regulation that require the transferor of a motor vehicle to disclose to his transferee, in writing, information concerning the odometer reading. Specifically, this rule permits the transferor to use either an odometer disclosure statement containing two sets of certifications or an abbreviated disclosure form to disclose the mileage to his transferee. This change should help minimize the costs of the transition to the new disclosure forms required after April 29, 1989.

DATES: This final rule is effective February 23, 1989. It shall remain in effect until April 29, 1989.

SUPPLEMENTARY INFORMATION: To implement the Truth in Mileage Act of 1986 and to make needed changes in the Federal odometer laws, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking (NPRM) on July 17, 1987. 52 FR 27028 (1987). The agency received numerous comments on the NPRM, representing the opinions of new and used car dealers, auto auctions, leasing companies, State motor vehicle administrators and enforcement and consumer protection agencies. Each of the comments was considered and a final rule was published on August 5, 1988. 53 FR 29464 (1988).

A portion of August 1988 rule, which will become effective on April 29, 1989, amends the form and content of the current odometer disclosure statement. Currently, a transferor is required to issue to his transferee an odometer disclosure statement containing two sets of certifications. In the first set of certifications, the transferor must certify whether or not the odometer reading reflects the actual mileage of the vehicle, or whether it reflects the mileage in excess of the designed mechanical limit of the odometer. In the second set of certifications, the transferor must disclose information about whether the odometer was altered (repaired or replaced), set back, or disconnected. However, if the transferor discloses the mileage to his transferee on the certificate of title or other State document that evidences

ownership of a vehicle, the transferor is not currently required to disclose whether the odometer was altered, set back, or disconnected. In view of the advantage of having a disclosure on the title, the agency permitted this shortened disclosure on documents issued by the State due to the practical limitations of space. *See*, 42 FR 38907 (1977); 45 FR 784 (1980).

Because we see no reason to differentiate between the disclosure on documents issued by the States and the disclosure on separate disclosure statements, the August 1988 rule eliminates the second set of certification requirements for transferors who issue an odometer disclosure statement that is neither on the title nor on any other document issued by a State. 52 FR 27024 (1987). As noted above, the August 1988 rule is effective on April 29, 1989.

The agency received a letter from the Virginia Independent Automobile Dealers Association (VIADA) concerning the use of a shortened odometer disclosure statement. VIADA requested that transferors be permitted to use the shortened odometer disclosure statement immediately, to minimize the cost burdens of the transition to the new form. The Oregon Independent Auto Dealers Association submitted a letter to the agency in support of VIADA's request. As a result of these letters, we published an NPRM on January 19, 1989, which proposed to revise paragraph (d) of section 580.4 to read as follows: "In addition to the information provided under paragraphs (a), (b), and (c) of this section, the transferor *may* also certify * * *" information concerning the disconnection or service of the odometer. (Emphasis has been added to highlight the discretion given to the transferor). 54 FR 2171 (1989).

The agency received one comment on the NPRM. The National Automobile Dealers Association agrees that permitting the use of the shortened odometer disclosure statement will minimize the potential costs associated with the change to an abbreviated statement. The NPRM is adopted as proposed.

There is good cause for an effective date earlier than thirty days; minimizing the economic impacts of the final rule of August 1988 and gaining the investigative and consumer benefits of additional information on the new forms. Therefore, consistent with the

Administrative Procedures Act, 5 U.S.C. 551 et seq., this revision to paragraph (d) of section 580.4 be effective immediately upon publication of this rule in the *Federal Register*. This amendment shall remain in effect until April 29, 1989. On April 29, 1989, the August 1988 final rule becomes effective, and a new section 580.5 will amend the current section 580.4 as revised by this rulemaking action. As noted in the preamble to the August 1988 final rule, there is no prohibition against a seller providing information concerning the odometer reading in addition to the information required by the regulation. 53 FR 29470 (1988) However, the long form currently in use does not meet the requirements of the August 1988 final rule and may not be used after April 29, 1989.

Section 580.4(d) is revised as follows:

§580.4 Disclosure of odometer information.

(d) In addition to the information provided under paragraphs (a), (b), and (c) of this section, the transferor may also certify that:

- (1) The odometer was not altered for repair or replacement purposes while in the transferor's possession, and he has no knowledge of anyone else doing so;
- (2) The odometer was altered for repair or replacement purposes while in the transferor's possession, and the mileage registered on the repaired or replacement odometer was identical to that before such service; or
- (3) The odometer was altered for repair or replacement purposes, the odometer was incapable of registering the same mileage, it was reset to zero, and the mileage on the odometer before repair was _____ miles/kilometers.

* * * * *

Diane K. Steed
National Highway Traffic Safety
Administrator

54 FR 7772
February 23, 1989

PREAMBLE TO AN AMENDMENT TO PART 580

Odometer Disclosure Law

(Docket No. 87-09; Notice 9)

RIN: 2127-AC42

ACTION: Interim final rule; request for comments.

SUMMARY: This interim final rule is in response to a recent amendment to the Truth in Mileage Act (contained in the Pipeline Safety Reauthorization Act of 1988). The amendment concerns powers of attorney used in connection with mileage disclosures and requires NHTSA to promulgate regulations concerning their use.

This rule permits, in limited circumstances when a title document is physically held by a lienholder, the uses of a secure power of attorney form. It allows a transferor to make the required odometer disclosure on a secure power of attorney form, issued by a State, that would authorize the transferee to exactly restate the mileage on the title document on the transferor's behalf. Similarly, this rule allows a transferee to authorize this transferor to sign the disclosure on the title document, on behalf of the transferees. To the extent that they are consistent with the new law, this rule grants, in whole or in part, three petitions for reconsideration.

This notice is published as an interim final rule without notice and the opportunity for comment. However, NHTSA requests comments on this rule. Following the close of the comment period, NHTSA will publish a notice responding to the comments and, if appropriate, NHTSA will amend the provisions of this rule.

DATES: Comments on this interim rule are due no later than April 7, 1989. This interim final rule becomes effective on April 29, 1989, unless a permanent final rule is issued thirty days prior to that date.

SUPPLEMENTARY INFORMATION:

Background

To implement the Truth in Mileage Act of 1986 and to make some needed changes in the Federal odometer regulations, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking (NPRM) on July 17, 1987. 52 FR 27022 (1987). The agency received numerous comments on the NPRM, representing the opinions of new and used car dealers, auto auctions, leasing

companies, State motor vehicle administrators, and enforcement and consumer protection agencies. Each of the comments was considered and a final rule was published on August 5, 1988. 53 FR 29464 (1988).

As required by the Truth in Mileage Act, the August 1988 final rule requires the transferor of a motor vehicle to provide a mileage disclosure on the title document or, if the title document does not include a space for the mileage disclosure (during the phase-in period), or if the vehicle has not been previously titled, it requires the transferor to make a written disclosure of mileage on a separate document. Also as required by that statute, that final rule requires that title documents be manufactured or otherwise set forth by a secure process to deter counterfeiting and alteration; requires that at the time of issue, the titles include the mileage disclosure; adds disclosure requirements for lessors and lessees; and adds retention requirements for lessors and auction companies. In addition, consistent with the statute, the rule amends the form and content of the odometer disclosure statement. The August 1988 rule also prohibits a person from signing the disclosure as both the transferor and transferee in the same transaction in order to guard against a situation where only one party to the transaction would be aware of the disclosure. Finally, that rule clarifies the definition of transferor and transferee and extends the record retention requirement for dealers and distributors.

The Agency received seven petitions for reconsideration of the August 1988 final rule. In addition, we received numerous letters concerning the final rule and supporting the petitions. These petitions requested that NHTSA reconsider the provisions of the final rule that: (1) Prohibit a person from signing the odometer disclosure statement as both the transferor and transferee in the same transaction; (2) define "transferor" and "transferee"; (3) define "secure printing process"; (4) concerned the language included on the odometer disclosure statement; and (5) require dealers and distributors to retain, for five years, a copy of every odometer disclosure statement, including the transferee's signature, that

they issue and receive. These petitions and letters have been placed in the docket. Before the Agency could fully consider the petitions, Congress enacted the Pipeline Safety Reauthorization Act of 1988, Pub. L. 100-561.

Section 401 of the Pipeline Safety Reauthorization Act, which amends section 408(d)(1) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. 1988(d)(1), concerns the use of certain powers of attorney in connection with the required mileage disclosure. Although the Truth in Mileage Act generally requires that a vehicle seller (or other transferor) make the required disclosure on the vehicle's title, Congress determined that, under certain limited conditions when the title document is physically held by a lienholder, the transferor should not be precluded from making the disclosure on a secure power of attorney form which includes a space for the required odometer disclosure information. This secure power of attorney form would be given to a buyer (transferee), authorizing him to restate, on the title document, the mileage disclosed by the seller on the secure power of attorney form, if State law otherwise permits. Congress found that precluding such uses of powers of attorney could cause an undue burden on dealers when a consumer's title is held by a bank or other lienholder. Because the consumer does not have the vehicle's title document, the consumer would be unable to complete the disclosure on the title unless: (1) The consumer returned to the dealer after the dealer paid off the lien and received the title from the lienholder, or (2) the title was mailed by the dealer to the consumer, completed by the consumer, and mailed back to the dealer. Both of these alternatives were seen by Congress as interfering with usual commercial transactions. 134 Cong. Rec. H10079 (daily ed. October 12, 1988) (remarks of Rep. Dingell).

To resolve this problem and to alleviate potential costs for dealers and consumers, the new amendment specifies that a secure power of attorney form, which includes a mileage disclosure by the transferor, may be used when the transferor's title document is physically held by a lienholder, if otherwise permitted by State law. The new law directs the agency to prescribe the form and content of the power of attorney/disclosure document and reasonable conditions for its use by the transferor, "consistent with this Act and the need to facilitate enforcement thereof." More specifically, the new law requires that the form: (1) "be issued by a State to transferees in accordance with paragraph (2)(A)(i) * * *" (Paragraph (2)(A)(i) concerns the issuance of documents that are set forth by a secure printing process or other secure process.); (2) include an odometer disclosure statement and other information as NHTSA deems necessary; and (3) be submitted to the State by the person granted the power of attorney. It also requires

NHTSA's rule to provide for the retention of a copy of the power of attorney and to ensure that the person granted the power of attorney completes the disclosure on the title consistent with the disclosure on the power of attorney form.

Scope

Consistent with the statutory mandate, this interim final rule grants, in whole or in part, three of the petitions for reconsideration. This interim final rule also implements the portion of the Pipeline Safety Reauthorization Act of 1988 that concerns the use of powers of attorney to disclose mileage.

NHTSA has also granted, in whole or in part, four petitions for reconsideration in a Notice of Proposed Rulemaking (NPRM) published in today's *Federal Register*. Generally, the NPRM concerns the definition of transferor and transferee with regard to the person who acts as agent for the transferor and transferee. It also concerns the relationship between the retention requirement applicable to dealers and distributors and the requirement that the transferee's signature appear on the odometer disclosure statements.

NHTSA has denied, in whole or in part, three petitions for reconsideration of the final rule published on August 5, 1988, because they are inconsistent with the new statute. For reasons discussed in the document denying the petitions, two other petitions were also denied. The denial notice is published in today's *Federal Register*.

Misuse of Powers of Attorney in Odometer Fraud Schemes

Although the July 1987 proposed rule to implement the Truth in Mileage Act did not include a regulatory provision explicitly concerning the use of powers of attorney, we stated in the preamble to the proposed rule that we recognize that powers of attorney are necessary in certain transactions. Someone acting on behalf of a deceased or incompetent owner would use a power of attorney from those owners to transfer the vehicles to a third party. In addition, the spouse of overseas military personnel, or of someone out of town or otherwise unavailable, may have a power of attorney from a husband or wife to transfer a vehicle to a third party. However, we emphasized that powers of attorney that allow a person to sign a disclosure as both the transferor and transferee result in only one party to the transaction being aware of the previous mileage disclosures. This could jeopardize the integrity of the "paper trail," the evidence of rollbacks that Congress intended to enhance by enacting the Truth in Mileage Act. 52 FR 27026 (1987).

The American Association of Motor Vehicle Administrators (AAMVA), the Wisconsin Department

of Transportation (Wisconsin), and the National Association of Consumer Agency Administrators (NACAA) agreed with our position. AAMVA noted that a power of attorney that allows a person to sign the disclosure as both the buyer and the seller creates a situation ripe for fraud, if that person is intent on rolling back the vehicle's odometer. Several of AAMVA's members concurred in this position. Wisconsin suggested that a new paragraph be added to section 580.5 providing that no person may sign a disclosure as both the transferor and transferee.

Other commenters, concerned that the title had to be present at the time of sale ("title present"), hoped that the use of a power of attorney would ease the burden that title present might have imposed. A coalition of commenters (the "coalition"), consisting of AAMVA, the National Auto Auction Association (NAAA), the National Automobile Dealers Association (NADA), the National Independent Automobile Dealers Association (NIADA), the Automotive Trade Association Executives, and the American Car Rental Association, suggested the use of a special power of attorney. (Although the coalition used the term "secure power of attorney," we are referring to its suggestion by the term "special power of attorney." This helps to differentiate between the statutorily permitted secure power of attorney and the coalition's suggestion.) The coalition proposed that this special power of attorney would (1) Be set forth by a secure process; (2) contain the appropriate Federal odometer disclosure statement; and (3) be fully completed, dated, and signed by the transferee. Upon receipt of the transferor's title, the initial transferee would negotiate the title and complete the transferor's statement based on the transferor's special power of attorney and mileage disclosure thereon. The title, together with the special power of attorney and all subsequent reassignments, would be presented to the State with any application for title.

We reviewed AAMVA's comments and the suggestions of Wisconsin and the coalition in light of our investigative experience which showed that powers of attorney had been abused in the furtherance of odometer fraud schemes. The following two schemes, uncovered during NHTSA's investigations, are illustrative of the use of a power of attorney to commit odometer fraud:

(A) The transferor, a leasing company, sold several vehicles to a wholesale dealer and gave this dealer a power of attorney to execute the odometer disclosure statements on its behalf. The buying dealer rolled back the odometer on the vehicles, entered the lower mileage on the disclosure statements, and signed the disclosures as both the buyer and the seller. The buyer then sent a copy of the statements to the leasing company where they were filed.

(B) A new car dealer purchased a used vehicle and received a separate odometer disclosure statement on which his transferor certified that the odometer reflected the actual mileage of the vehicle. The new car dealer sold the car before he received the title, certifying that the odometer reflected the vehicle's actual mileage. The new car dealer then received the title, which had a blatantly altered odometer reading in the reassignment space on the reverse side of the title. Using the power of attorney that he received from his buyer, the new car dealer signed the disclosure as both the transferor and transferee. He never advised his buyer of the mileage problem. [Note: Other title problems that could be ignored by unscrupulous persons include higher mileage on the face of the title than on the reassignment on the reverse side and a certification that the odometer reading does not reflect the actual mileage.]

Based on the comments from AAMVA, NACAA, and Wisconsin and our own investigative experience, we adopted Wisconsin's suggestion and added a new §580.5(h). This provision prohibits a person from signing the disclosure as both the transferor and transferee in the same transaction.

We did not adopt the suggestion of the coalition of commenters for several reasons. First, we had modified the proposed requirement in the NPRM of July 1987 that the title be present at the time of transfer of ownership and addressed the primary concern of the commenters by permitting the disclosure to be made "in connection with the transfer of ownership," rather than "at the time of transfer of ownership." Second, we were concerned that the coalition's suggestion would interfere with the integrity of the paper trail, which Congress intended to enhance by enacting the Truth in Mileage Act. Under the coalition's suggestion, only one party to the transfer would see the odometer disclosure (which would have been on the title). The power of attorney could be easily discarded and a new one forged and submitted to the State by any of the parties to subsequent transfers, since the issuance of the special power of attorney forms would not be controlled in any way. Finally, this process would place a burden on State titling offices to review additional documentation, check for conformity of the information contained on the documents, and maintain additional records. Accordingly, the final rule of August 1988 implemented the Truth in Mileage Act, where allowing the States the maximum discretion in complying with these requirements. 53 FR 29469, 29472, 29475 (1988).

Petitions for Reconsideration

In petitions filed with the agency, NADA, NIADA, and NAAA asked NHTSA to reconsider §580.5(h), the provision which prohibits a person from signing the disclosure as the transferor and transferee in the

same transaction. The agency also received many letters in support of the petitions. The petitioners claimed that customers would not return to dealers to sign the disclosure on the title. They alleged that a customer's failure to return would result in costs associated with locating these people, administrative costs for mailing and/or duplicating titles, and increased inventory costs in States where the dealer must have the title present at time of sale. This would result in higher vehicle prices as dealers would pass these expenses on to the consumer. Alternatively, they argued that if customers did return, this return visit would result in lost time at work and other costs. They also claimed that a person signing the disclosure as the buyer and the seller did not create a situation ripe for fraud, that the provision conflicted with State laws and was contrary to Federal law. Additional information concerning these petitions is included in the denial of petitions for reconsideration published in today's *Federal Register*.

The petitioners asked that NHTSA eliminate section 580.5(h). Alternatively, the petitioners suggested that NHTSA permit the use of a special power of attorney or require title sets, a two-part title system where the owner holds the title and the lienholder holds a notice of security interest filing.

Congressional Mandate

Before the agency could fully consider these petitions, Congress enacted the Pipeline Safety Reauthorization Act, Pub. L. 100-561. Section 401 of the Act, which amends section 408(d)(1) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. 1988(d)(1), concerns the use of limited powers of attorney in connection with mileage disclosure. The purpose of this provision is to resolve a technical problem for purchaser: of used motor vehicles (dealers), without increasing the burden on States or lessening our ability to fight odometer fraud. 134 Cong. Rec. H10079 (daily ed. October 12, 1988) (remarks of Rep. Whittaker). Congress determined that NHTSA's August 1988 final rule, which prohibits a person from signing an odometer disclosure statement as both the transferor and transferee in the same transaction, could have the effect of precluding the use of a power of attorney in certain instances. Recognizing that the Truth in Mileage Act of 1986 requires a disclosure, including the transferee's signature, on the title, Congress found that limiting the use of powers of attorney could cause an undue burden on dealers and consumers when a consumer's title is held by a bank or other lienholder. Because the consumer does not have the vehicle's title in these instances, the consumer, as a transferor, would be unable to complete the disclosure on the title unless: (1) The consumer returned to the dealer after the dealer paid off the lien and

received the title from the lienholder, or (2) the title was mailed by the dealer to the consumer, completed by the consumer, and mailed back to the dealer. Both of these alternatives were rejected by Congress. "It is not reasonable to assume that the consumer will come back to the dealer several days or weeks later to fill in a title received from the bank by the dealer after paying off the lien. It is also not safe to rely on the mails to send the valuable title document to the consumer or to rely on the consumer to return the document in a timely fashion." 134 Cong. Rec. H10079 (daily ed. October 12, 1988) (remarks of Rep. Dingell).

To resolve the problem and alleviate potential costs for dealers and consumers, the new law specifies that a power of attorney authorizing the dealer to disclose mileage on the title on behalf of the consumer may be used when the transferor's title document is physically held by a lienholder, if otherwise permitted by State law. The new law does not require the States to allow the use of a power of attorney for the purpose of mileage disclosure. However, if a State chooses to permit the use of powers of attorney in connection with mileage disclosure, the State itself must issue the power of attorney form, and the form must be consistent with the requirements of the law and the regulations promulgated thereunder. The new law directs the agency to prescribe the form and content of the power of attorney/disclosure document and reasonable conditions for its use by the transferor. More specifically, the new law requires that the form: (1) "be issued by a State to transferees in accordance with paragraph (2)(A)(i) * * *" (Paragraph (2)(A)(i) concerns the issuance of documents that are set forth by a secure printing process or other secure process.); (2) include an odometer disclosure statement and other information as NHTSA deems necessary; and (3) be submitted to the State by the person granted the power of attorney. It also requires NHTSA to provide for the retention of a copy of the power of attorney form and to ensure that the person granted the power of attorney completes the disclosure on the title consistent with the disclosure on the power of attorney form.

We note that in some States, a secure power of attorney is not necessary to ensure that the mileage disclosure of the customer trading in a vehicle to a dealer is included on the vehicle's title document. For example, some States record all lien information on computerized recordkeeping systems and allow the registered owner to hold the title document. Other States have adopted a two-part title system under which the registered owner holds the title document and the lienholder holds a notice of security interest filing. Under either system, because the vehicle owner would have the title document, he could make the disclosure on the title and would not

need to use a power of attorney form. In these States, the provisions of the new law would not apply, and the disclosure signed by the transferor would continue to be required on the vehicle's title document.

Interim Final Rule

This notice is published as an interim final rule, without prior notice and opportunity to comment. NHTSA believes that there is good cause for finding that notice and comment rulemaking is impracticable, unnecessary, and contrary to the public interest in this instance, since it would prevent compliance with the February 1, 1989 statutory deadline for issuance of a final rule. This finding is also based on the agency's view that given the April 29, 1989 effective date of NHTSA's August 1988 final rule which could result in an undue burden on dealers and consumers when a consumer's title is held by a bank or other lienholder, relief from the August 1988 rule is imperative.

As an interim final rule, this regulation is fully in effect and binding after its effective date, unless NHTSA issues a permanent final rule thirty days prior to that time. No further regulatory action by NHTSA is essential to the effectiveness of this rule. However, in order to benefit from comments which interested parties and the public may make, we are requesting that comments be submitted to the docket for this notice. All comments submitted in response to this notice will be considered by the agency. Following the close of the comment period, NHTSA will publish a notice responding to the comments and, if appropriate, NHTSA will amend the provisions of this rule.

Consistent with the provisions of the new law concerning the security of the power of attorney forms, this interim final rule revises §580.4, which concerns the security of title documents. Although the legislative history indicates that the power of attorney forms must be "no less secure than the title document itself", 134 Cong. Rec. H10079 (daily ed. October 12, 1988) (remarks of Rep. Dingell), we believe that we can satisfy our statutory obligation to require secure forms and avoid unnecessary financial burdens upon the States by including a provision that is consistent with our position on the security of reassignment documents. Since the August 1988 final rule requires that reassignment documents be set forth by "a secure process", not necessarily the same process used to secure the title, this rule requires that the power of attorney forms also be set forth by "a secure process". Accordingly, we are changing the title of §580.4 to read "Security of titles documents and power of attorney forms", and we are amending that section to require that power of attorney forms issued pursuant to §580.13 and §580.14 be set forth by a secure process.

The new law does not give NHTSA explicit statutory authority to require the States to control the power of attorney forms by any type of numbering system. Therefore, we have not limited the administrative discretion of the States in this area even though we recognize that it is common practice to control secure documents. This is also consistent with our position concerning reassignment documents. However, nothing in the Act or this rule should be read to preclude a State from using control techniques on these documents.

Since section 401 of the Pipeline Safety Reauthorization Act has the effect of allowing a person to sign an odometer disclosure statement on the title as both the transferor and the transferee in specified circumstances, we are amending §580.5(h), which prohibits a person from signing an odometer disclosure statement as both the transferor and transferee in the same transaction. This amendment to §580.5(h) permits a person to sign an odometer disclosure statement as both the transferor and transferee if the requirements of the new §580.13 and §580.14, which NHTSA is adding below, have been met.

In accordance with the Congressional mandate, we are adding a new §580.13. Under this section, if permitted by State law, a transferor whose motor vehicle title document is physically held by a lienholder may give his transferee a power of attorney for the purpose of mileage disclosure on the title document. The power of attorney must be on Part A of a secure form issued by the State and must contain a space for the transferor to disclose the mileage.

The disclosure required to be made by the transferor to the transferee on the power of attorney form parallels the disclosure required to be made by the transferor to the transferee on the title and on a separate odometer disclosure statement. While this rule sets forth the information which must be disclosed, we are adding, in Appendix E, a sample power of attorney form that the States which elect to provide power of attorney forms may adopt. The form must be separated into parts A, B, and C. However, each State is free to organize, in each part, the information required by this rule in any way it wishes.

As required by the new law and to ensure the integrity of the paper trail, we are requiring the transferee exercising the power of attorney to restate the mileage on the transferor's title exactly as it appears on the transferor's disclosure on the power of attorney form. In addition, this rule requires the transferee to submit the original power of attorney form to the State with an application for title and the transferor's title. This could be accomplished at one of two times. The transferee could apply for title in his own name and submit the secure power of attorney form and his transferor's title. Alternatively, the transferee could submit the secure power of attorney

form after selling the vehicle, with the title and his purchaser's title application, provided his purchaser permits him to apply for title on behalf of the purchaser. As noted by Representative Clement, "Limiting the use of the power of attorney to this "first sale" instance should assist auto dealers in completing the sales transaction while affording sufficient safeguards against odometer fraud." 134 Cong. Rec. H10081 (daily ed. October 12, 1988) (remarks of Rep. Clement). It would ensure that the State would be able to compare the transferor's disclosure on the power of attorney form with the transferee's disclosure, on behalf of the transferor, made on the title pursuant to the power of attorney. If the transferee were not required to submit the power of attorney to the State with the application for title and the transferor's title, the integrity of the paper trail would be at risk, because subsequent transferors could discard the power of attorney, forge a new one, and alter the mileage on the title. (As noted above, we recognize that even with securely printed titles, some alterations have been, and may continue to be, undetected upon initial review by State Departments of Motor Vehicles.) Additionally, the paper trail would be in jeopardy if the transferee submitted only the power of attorney form and no title documents. This could result in the transfer on the vehicle to an out-of-state buyer. The title would be in one State and the secure power of attorney form in another; they could not be easily compared. This would be similar to the problems with the current use of a separate odometer disclosure statement. Therefore, we believe that this submission of the original power of attorney form to the titling State is necessary to prevent the misuse of the forms and to facilitate enforcement of the anti-fraud provisions of the law.

As requested during the debate in the House of Representatives on the amendment, NHTSA has also considered other instances when a secure power of attorney may be necessary so as not to alter or interfere with proper business transactions. We have considered whether to permit a transferee to give his power of attorney to his transferor for the purpose of acknowledging the mileage disclosure. For example, if the transferor is a dealer who does not have possession of the title, because the vehicle was a trade-in and the lienholder has not yet released title, should the buyer, the transferee, be permitted to give a power of attorney to the transferor/selling dealer to acknowledge the mileage disclosure on his behalf? This power of attorney from the transferee to the transferor would allow the transferor to sign the title as both the transferor and transferee in the same transaction. To alleviate any potential commercial or business problems that could result in costs to dealers when they have not yet received the

title upon which they must make a mileage disclosure, because the title is physically held by the lienholder of the person who traded in a car to the dealer, we are adding a new §580.14 that permits a transferee to give his power of attorney to his transferor for the purpose of reviewing the title and any reassignment documents to determine whether there are any mileage discrepancies and, if there are no mileage discrepancies, to sign the title, acknowledging the disclosure. This power of attorney must include a disclosure from the transferor to the transferee that parallels the disclosure required to be made by the transferor to the transferee on the title document and on the separate odometer disclosure statement. In addition, because this power of attorney would allow the same person to sign the title as the transferor and transferee in the same transaction, the appointment of the transferor as the transferee's attorney-in-fact must be made on Part B of the same secure power of attorney form, issued by a State, upon which the transferor was appointed the attorney-in-fact by his transferor pursuant to §580.13. This will enable purchasers to examine the previously issued power of attorney for alterations, erasures, and other marks, and to learn the name of the prior owner without the additional cost of a title search. This is the same information that purchasers would receive if the title was not held by a lienholder since, under the Truth in Mileage Act of 1986, the transferor is required to disclose mileage on the vehicle's title, if the title contains a space for the disclosure. This rule requires that a transferee who is granted a power of attorney from his transferor and who applies for title in his own name must show his purchaser, upon his purchaser's request, a copy of the previous owner's title, including the odometer disclosure completed on behalf of the previous owner, and a copy of the power of attorney form completed by the previous owner. Similarly, if a purchaser decides not to appoint his transferor as his attorney-in-fact pursuant to §580.14, the transferor must show his purchaser a copy of the previous owner's title and a copy of the power of attorney form completed by the previous owner.

To ensure that a person who exercises a power of attorney, either under §580.13, alone, or under §§580.13 and 580.14, is fully aware of his obligation and his liability for any action that is inconsistent with the power of attorney, this interim final rule requires, under a new §580.15, that the person exercising a power of attorney, either under §580.13 or under §§580.13 and 580.14, complete, on Part C of the secure power of attorney form issued by the State, a certification that he has received and reviewed the title and any reassignment documents and that there are no indications of mileage discrepancies. Any mileage discrepancies void the powers of

attorney. A violation of this section could result in fines and/or imprisonment.

We have also considered other instances in which a secure power of attorney that would allow a person to sign a disclosure as the transferor and transferee in the same transaction should be permitted. Some have suggested that a secure power of attorney should be permitted when a title is lost or misplaced. We have carefully balanced the potential convenience of permitting a power of attorney in this circumstance against the serious potential for undermining the law enforcement purposes of the law. (As we have explained above, a person signing a mileage disclosure as both the transferor and transferee creates a situation ripe for fraud when the person signing the disclosure is intent on rolling back the odometer.) On balance, we have concluded that the possible increase in inconvenience does not outweigh the increased opportunity for odometer fraud. Furthermore, we have not been made aware of any business or commercial problems associated with this conclusion that would be comparable to the problems associated with titles physically held by lienholders. Especially because lost or misplaced titles can be replaced, and because we can limit the possible misuse of secure power of attorney forms, we have not extended the use of these secure powers of attorneys to situations in which the transferor's title is lost or misplaced.

NHTSA invites comments on other situations in which a secure power of attorney form may be necessary and appropriate.

Finally, section 401 of the Pipeline Safety Reauthorization Act requires NHTSA to promulgate a regulation that provides for the retention of a copy of the power of attorney form. Therefore, we are amending §580.8 which concerns odometer disclosure statement retention by adding a new paragraph (c). Under this new paragraph, motor vehicle dealers and distributors who are granted a power of attorney by their transferor are required to retain, for five years, a photostat, carbon, or other facsimile copy of each power of attorney form that they receive. These documents must be retained at the primary place of business of the dealer or distributor in an order that is appropriate with business requirements and that permits systematic retrieval. This new paragraph (c) is consistent with the retention requirements of the August 1988 final rule that is applicable to dealers, distributors, and lessors. Like that final rule, the storage provision of this amendment is phrased broadly to include any media by which information may be stored, provided there is no loss of information.

Federalism Assessment

Congress found that limiting the use of powers of

attorney in connection with mileage disclosure could cause an undue burden on dealers and consumers when a consumer's title is physically held by a bank or other lienholder. To resolve the problem and alleviate potential costs for dealers and consumers, the new law specifies that a power of attorney may be used, if otherwise permitted by State law. The law specifies that the form be securely printed and include a disclosure. This interim final rule does not impose any requirements upon the States other than those imposed by the law. Nevertheless, this action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that this interim final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. The States may decide not to allow the use of powers of attorney in connection with mileage disclosure and, therefore, would not be required to print conforming forms.

Section 580.4 is revised to read as follows:

§580.4 Security of title documents and power of attorney forms.

Each title shall be set forth by means of a secure printing process or other secure process. In addition, any other documents which are used to reassign the title shall be set forth by a secure process. Power of attorney forms issued pursuant to §§580.13 and 580.14 shall be issued by the State and shall be set forth by a secure process.

Section 580.5 is amended by revised paragraph (h) to read as follows:

§580.5 Disclosure of odometer information.

* * * * *

(h) No person shall sign an odometer disclosure statement as both the transferor and transferee in the same transaction, unless permitted by §580.13 or §580.14.

Section 580.8 is amended by adding paragraph (c) to read as follows:

§580.8 Odometer disclosure statement retention.

* * * * *

(c) Dealers and distributors of motor vehicles who are granted a power of attorney by their transferor pursuant to §580.13, or by their transferee pursuant to §580.14, shall retain for five years a photostat, carbon, or other facsimile copy of each power of attorney that they receive. They shall retain all powers of attorney at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval.

Section 580.13 is added to read as follows:

§580.13 Disclosure of odometer information by power of attorney.

(a) If the transferee's title is physically held by a lienholder and if otherwise permitted by State law, the transferor may give a power of attorney to his transferee for the purpose of mileage disclosure. The power of attorney shall be on a form issued by the State to the transferee that is set forth by means of a secure printing process or other secure process, and shall contain, in Part A, a space for the information required to be disclosed under paragraph (b), (c), (d), and (e) of this section and in Part B, a space for the information required to be disclosed under §580.14. The form shall contain, in Part C, a space for the certification required to be made under §580.15.

(b) In connection with the transfer of ownership of a motor vehicle, each transferor whose title is physically held by lienholder and who elects to give his transferee a power of attorney for the purpose of mileage disclosure, must appoint the transferee his attorney-in-fact for the purpose of mileage disclosure and disclose the mileage on the power of attorney form issued by the State. This written disclosure must be signed by the transferor, including the printed name, and contain the following information:

- (1) The odometer reading at the time of transfer (not to include tenths of miles);
- (2) The date of transfer;
- (3) The transferor's name and current address;
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model, year, body type, and vehicle identification number.

(c) In addition to the information provided under paragraph (b) of this section, the power of attorney form shall refer to the Federal law and state that providing false information or the transferee's failure to submit the form to the State may result in fines and/or imprisonment. Reference may also be made in applicable State law.

(d) In addition to the information provided under paragraphs (b) and (c) of this section,

- (1) The transferor shall certify that to the best of his knowledge the odometer reflects the actual mileage; or
- (2) If the transferor knows that the odometer reading reflects mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or
- (3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(e) The transferee shall sign the power of attorney form, print his name, and return a copy of the power of attorney form to the transferor.

(f) Upon receipt of the transferor's title, the transferee shall complete the space for mileage disclosure on the title exactly as the mileage was disclosed by the transferor on the power of attorney form. The transferee shall submit the original power of attorney form to the State, with the application for title and the transferor's title.

A section 580.14 is added to read as follows:

§580.14 Power of attorney to review title documents and acknowledge disclosure.

(a) If the transferor does not have the title document of the vehicle because it is physically held by the lienholder of his transferor and if otherwise permitted by State law, the transferee may give a power of attorney to his transferor to review the title and any reassignment documents for mileage discrepancies, and if no discrepancies are found, to acknowledge disclosure on the title. The power of attorney shall be on a form issued by the State to the transferee that is set forth by means of a secure printing process or other secure process, and shall contain, in Part A, the information required to be disclosed under §580.13. The form shall also contain, in part B, a space for the information required to be disclosed under paragraphs (b), (c), (d), and (e) of this section and, in Part C, a space for the certification required to be made under §580.15.

(b) In connection with the transfer of ownership of a motor vehicle, each transferee of a transferor who does not have the title document because it is physically held by the lienholder of his transferor and who was granted a power of attorney by his transferor for the purpose of mileage disclosure, may appoint his transferor as his attorney-in-fact to review the title and any reassignment documents. This power of attorney must include a mileage disclosure from the transferor to the transferee and must be signed by the transferor, including the printed name, and contain the following information:

- (1) The odometer reading at the time of transfer (not to include tenths of miles);
- (2) The date of transfer;
- (3) The transferor's name and current address;
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model, year, body type, and vehicle identification number.

(c) In addition to the information provided under paragraph (b) of this section, the power of attorney form shall refer to the Federal law and state that providing false information or the transferee's failure to submit the form to the State may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(d) In addition to the information provided under paragraphs (b) and (c) of this section.

(1) The transferor shall certify that to the best of his knowledge the odometer reflects the actual mileage; or

(2) If the transferor knows that the odometer reading reflects mileage in excess of the designated mechanical odometer limit, he shall include a statement to that effect; or

(3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(e) The transferee shall sign the power of attorney form, print his name.

(f) The transferor shall give a copy of the power of attorney form to his transferee.

(g) If a transferee elects to return to his transferor to sign the disclosure on the title when the transferor obtains the title from the lienholder and does not give his transferor a power of attorney to review the title and any reassignment documents, upon the transferee's request, the transferor shall show to the transferee a copy of the power of attorney that he received from his transferor.

(h) Upon subsequent transfer of the vehicle and upon request of the purchaser, the transferor, who was granted the power of attorney by his transferor and who now holds the title to the vehicle in his own name, must show to his purchaser the copy of the previous owner's title and power of attorney form.

A section 580.15 is added to read as follows:

§580.15 Certification by person exercising power(s) of attorney.

(a) A person who exercises a power of attorney either under §580.13 and 580.14 must complete a certification that he has reviewed the title and any reassignment documents for mileage discrepancies and that no discrepancies exist. This certification shall be under Part C and on the same form as the powers of attorney executed under §§580.13 and 580.14, and shall include:

(1) The signature and printed name of the person exercising the power of attorney;

(2) The address of the person exercising the power of attorney; and

(3) The date of the certification.

(b) Any mileage discrepancies void the powers of attorney.

An Appendix E is added to read as follows:

Appendix E—Power of Attorney Disclosure Form

Warning: This Form May Be Used Only When Title Is Physically Held By Lienholder. This Form Must Be Submitted To The State By The Person Exercising Powers Of Attorney. Failure To Do So May Result In Fines And/Or Imprisonment.

VEHICLE DESCRIPTION

Year _____ Make _____

Model _____ Body Type _____

Vehicle Identification Number _____

Part A. Power of Attorney to Disclose Mileage

Federal law (and State Law, if applicable) requires that you state the mileage upon transfer of ownership. Providing a false statement may result in fines and/or imprisonment.

I, _____
(transferor's name, Print)

appoint _____
(transferee's name, Print)

as my attorney-in-fact, to disclose the mileage, on the title for the vehicle described above, exactly as stated in my following disclosure.

I state that the odometer now reads _____
(no tenths) miles and to the best of my knowledge that it reflects the actual mileage unless one of the following statements is checked.

_____(1) I hereby certify that to the best of my knowledge the odometer reading reflects the mileage in excess of its mechanical limits.

_____(2) I hereby certify that the odometer reading is NOT the actual mileage.

WARNING—ODOMETER DISCREPANCY.

(Transferor's Signature)

(Printed Name)

Transferor's Address (Street) _____

(City) _____ (State) _____ (ZIP Code) _____.

Date of Statement _____

(Transferee's Signature)

(Printed Name)

Transferee's Name _____

Transferee's Address (Street) _____

(City) _____ (State) _____ (ZIP Code) _____.

Part B. Power of Attorney to Review Title Documents and Acknowledge Disclosure.

(Part B is invalid unless Part A has been completed.)

I, _____
(transferee's name, Print)

appoint _____
(transferor's name, Print)

as my attorney-in-fact, to sign the mileage disclosure, on the title for the vehicle described above, only if the disclosure is exactly as the disclosure completed below.

(Transferee's Signature)

(Printed Name)

Transferee's Name _____

Transferee's Address (Street) _____

(City)_____ (State)_____ (ZIP Code)_____.

Federal law (and State Law, if applicable) requires that you state the mileage upon transfer of ownership. Providing a false statement may result in fines and/or imprisonment.

I, _____
(transferor's name, Print)

state that the odometer now reads _____(no tenths) miles and to the best of my knowledge that it reflects the actual mileage unless one of the following statements is checked.

_____(1) I hereby certify that to the best of my knowledge the odometer reading reflects the mileage in excess of its mechanical limits.

_____(2) I hereby certify that the odometer reading is NOT the actual mileage.

WARNING—ODOMETER DISCREPANCY.

(Transferor's Signature)

(Printed Name)

Transferor's Address (Street) _____

(City)_____ (State)_____ (ZIP Code)_____.

Date of Statement _____

Part C. Certification

I, _____,
(person exercising above powers of attorney, Print) hereby certify that I have received and reviewed the title for the vehicle described above and that there are no indications of mileage discrepancies.

(Signature)

(Printed Name)

Address (Street) _____

(City)_____ (State)_____ (ZIP Code)_____.

Date _____

Issued on March 3, 1989.

Diane K. Steed,
*National Highway Traffic Safety
Administrator*

54 FR 9809
March 8, 1989

PREAMBLE TO AN AMENDMENT TO PART 580 ODOMETER DISCLOSURE REQUIREMENT

(Docket No. 87-09; Notice 10)

RIN: 2127-AC42

ACTION: Final Rule

SUMMARY: This final rule clarifies the responsibilities imposed on all parties in conjunction with the disclosure of odometer mileage information when transferring ownership of motor vehicles. It clarifies the definitions of transferor and transferee in situations where a person acts as an agent for the transferor or transferee. In addition, this rule requires a transferee to return to his transferor a signed copy of the odometer disclosure statement that he received from the transferor. This rule also provides that to be valid, title reassignment documents must be issued by a State. Finally, this rule expands the circumstances in which a secure power of attorney form issued by the State may be used to make the required odometer disclosure to include situations in which the title has been lost. The power of attorney would authorize the transferee to restate exactly the mileage on the title document on the transferor's behalf. When such vehicles are resold, this rule allows a transferee to use the same power of attorney form to authorize his transferor to sign the disclosure on the title document on behalf of the transferee.

DATES: The portion of section 580.4 concerning the power of attorney form, section 580.5(h), section 580.8(c) and sections 580.13, 580.14, 580.15, and 580.16 are effective August 30, 1989. All other sections become effective September 29, 1989.

Under section 553(d) of the Administration Procedures Act, 5 U.S.C. 553(d), a substantive rule may become effective before thirty days after its publication where it relieves a restriction, or as otherwise provided for by the agency for good cause. The sections that are immediately effective are those dealing with powers of attorney. These sections, although subject to the alterations discussed herein, were already effective. Moreover, the substantive changes relieve restrictions on the use of powers of attorney and, therefore, may be made effective upon publication.

Background

To implement the Truth in Mileage Act of 1986, Pub. L. 99-579, and to make some needed changes in

the Federal odometer regulations, the National Highway Traffic Safety Administration (NHTSA) published a notice of proposed rulemaking (NPRM) on July 17, 1987. 52 FR 27022 (1987). The agency received numerous comments on the NPRM representing the opinions of new and used car dealers, auto auctions, leasing companies, State motor vehicle administrators, and enforcement and consumer protection agencies. Each of the comments was considered, and a final rule was published on August 5, 1988. 53 FR 29464 (1988).

The agency received seven petitions for reconsideration of the August 1988 final rule. These petitions requested that NHTSA reconsider the provisions of the final rule that: (1) prohibit a person from signing the odometer disclosure statement as both the transferor and transferee in the same transaction; (2) define "transferor" and "transferee;" (3) define "secure printing process;" (4) concern the language included on the odometer disclosure statement; and (5) require dealers and distributors to retain, for five years, a fully completed and signed copy of every odometer disclosure statement, including the transferee's signature, that they issue and receive.

In response to the petitions for reconsideration, NHTSA published two notices in the *Federal Register* on March 8, 1989. In granting certain aspects of those petitions, NHTSA issued an NPRM, 54 FR 9858 (1989), that proposed to clarify the definitions "transferor" and "transferee," require the transferee to return a completed disclosure statement to his transferor, and require that, to be valid, title reassignment documents must be issued by a State. Other aspects of the petitions for reconsideration were denied. 54 FR 9816 (1989).

While the petitions for reconsideration were pending before the agency, Congress enacted the Pipeline Safety Reauthorization Act of 1988 (PSRA), Pub. L. 100-561 (October 31, 1988). Section 401 of the PSRA, which amends section 408(d)(1) of the Motor Vehicle Information and Cost Savings Act (MVICSA), 15 U.S.C. 1988(d)(1), authorizes the use of powers of attorney in connection with the required mileage disclosure under certain circumstances. The new law directs the agency to prescribe the form and content

of the power of attorney/disclosure document and to establish reasonable conditions for its use by the transferor "consistent with this Act and the need to facilitate enforcement thereof." It also requires NHTSA's rule to provide for the retention of a copy of the power of attorney by the person exercising it and to ensure that the person granted the power of attorney completes the disclosure on the title consistent with the disclosure on the power of attorney form. Finally, the statute provides that the original power of attorney form must be submitted back to the State by the person exercising the power of attorney.

To implement these provisions, NHTSA issued an interim final rule/request for comments on March 8, 1989. 54 FR 9809 (1989). The interim final rule permits, in limited instances when the title is physically held by a lienholder, an individual to sign the odometer disclosure as both transferor and transferee through the use of a secure power of attorney form, issued by a State. When such vehicles are resold, the interim final rule allows a transferee to use the same power of attorney form to authorize his transferor to sign the disclosure on the title document on his behalf.

The March 1989 Notice of Proposed Rulemaking

Definitions

To clarify that the liability for issuing a false odometer disclosure statement could be placed on a person acting as an agent for the owner of the vehicle, in an NPRM published on July 17, 1987, NHTSA proposed to amend the definition of "transferor" to include the agent of the transferor who transfers the ownership of another and the definition of "transferee" to include an agent of the transferee who accepts transfer of ownership in a motor vehicle. 52 FR 27023 (1987). The definitions were adopted as proposed. 53 FR 29464 (1988).

The National Auto Auction Association (NAAA) and the National Independent Automobile Dealers Association (NIADA) requested NHTSA to reconsider these definitions. NAAA and NIADA suggested that the definitions should be expressly limited to the principal or agent who signs the required disclosure on behalf of the owner. Because the suggestions of NAAA and NIADA were consistent with NHTSA's intention to clarify that the liability for issuing a false statement could be placed on the person acting as an agent for the owner of a vehicle, in the March 1989 NPRM we proposed to amend the portions of the definitions of transferor and transferee concerning the transferor's and transferee's agents. We proposed to define "transferor" to include the transferor's agent who signs any odometer disclosure statement on behalf of the transferor. Similarly, we proposed to define "transferee" to include the transferee's agent who signs any odometer disclosure statement on

behalf of the transferee.

We have received four comments on the proposed changes to the definitions. The Delaware Department of Public Safety, Division of Motor Vehicles (Delaware), and the National Automobile Dealers Association (NADA) agree with the proposed definitions. The National Vehicle Leasing Association (NVLA) "urge[s] NHTSA to provide that only one transferor need provide an odometer disclosure statement to a transferee." Furthermore, NVLA requests that NHTSA amend the definitions to read "or" in lieu of "and" and to amend sections 580.5(c), which requires "each" transferor to make a disclosure. The National Consumer Law Center (NCLC) recommends that the agency retain the definitions contained in the 1988 final rule. It believes that the proposed definitions create a "gaping loophole" and explains its position by reference to the following scenario:

[A] manager of an incorporated dealership or auction engaged in making false disclosures need only have another employee such as an office clerk sign the disclosure statements to avoid liability. The manager could argue that he or she was not a transferor under the first part of the new definition because the manager had no "ownership." The manager would then argue that the second part of the definition also did not apply because while he or she was admittedly an agent and it had been proven that he or she was responsible for a false disclosure, the manager did not "sign" the disclosure statement.

Therefore, NCLC suggests that the definitions be amended to include any person who, as agent, "causes to be" made or signed an odometer disclosure statement.

To assist those involved in the transfers of vehicles to more fully understand the requirements of the law and the proposed definitions, in the preamble to the March 1989 NPRM, we addressed several different scenarios and explained which parties are transferors. As noted in the scenarios, the person who actually signs the disclosure statement may depend upon the relationship between the parties. It is not NHTSA's intention to require that the transferee receive multiple disclosure statements. Therefore, we have adopted NVLA's suggestion and amended section 580.5(c) to state that only one transferor need disclose the mileage to the transferee. However, we have not adopted NVLA's suggestion to amend the definitions to read in the disjunctive as opposed to the conjunctive. If more than one party is, in fact, the transferor, the relationship between the parties determines who issues the odometer disclosure statement.

We have not adopted the proposal of the NCLC. Sections 412 and 413 of the MVICSA, 15 U.S.C. 1990b and 1990c, include as persons covered by the requirements of that Act, a person who "causes to be

done” any act. The manager who “caused” the other employee to sign the disclosure statement would be in violation of statute for causing the employee, as transferor or transferee, to violate another section of the MVICSA or NHTSA’s regulations. Therefore, the regulatory definitions do not need to be expanded to protect against the scenario described by the NCLC, and the original purpose of the amended definition, to close “loopholes which have limited the Government’s ability to prosecute certain violations of the odometer laws because of ambiguity in the definitions”, 53 FR 29465 (1988), has been met.

Record Retention

In response to a petition for reconsideration of the August 1988 final rule submitted by the National Association of Fleet Administrators, Inc. (NAFA), in the March 1989 NPRM, we proposed to place a new requirement upon a transferee. In addition to signing the disclosure and printing his or her name, the transferee would be required to return a copy of the signed odometer disclosure statement to his or her transferor. We anticipated that this provision would ensure that transferees who obtain the title from their long-distance transferors will return a copy of the completed disclosure statement to their transferors and that these long-distance transferors will thus be able to retain the signed odometer disclosure statement, as required by section 580.8(a).

Delaware, NADA, NAFA, and NVLA support this proposal. Because we received no comments in opposition to our proposal, it is adopted as proposed.

We note that, with regard to the transferee’s obligation to return a completed odometer disclosure statement, NVLA also asserts that “it is vitally important that the regulation indicate that a transferor who has sent the odometer disclosure statement to the transferee, requested that the transferee sign the statement and return a copy to the transferor and informed the transferee of potential liability for failure to return the copy should be protected against having violated the regulation in the event that the transferee does not return the copy.” Therefore, NVLA suggests that section 580.8, which concerns the dealers retention requirements, be amended.

NHTSA specifically considered and rejected a similar suggestion proposed by NAFA and the PHH Group, Inc. in their petitions for reconsideration of the August 1988 final rule. As noted in the preamble to the August 1988 final rule and the March 1989 NPRM which granted, in part, those petitions, we stated that pursuant to 15 U.S.C. 1990b, in exercising its enforcement discretion NHTSA must take into account the nature, circumstances, extent, and gravity of a violation and that we cannot provide a complete listing of the circumstances in which failure to retain the required documents will be excused. We continue to believe that it would be inappropriate to

include, in the regulation, what constitutes a “good faith effort” to retain the completed odometer disclosure statement. NVLA requests that we do just that by adopting its suggestion and, therefore, its request is denied.

Security of Reassignment Documents

In the March 1989 NPRM, we proposed to amend section 580.4 concerning the security of reassignment documents. Specifically, we proposed to require that in addition to being set forth by a secure printing process, reassignment documents will not be valid unless they are issued by a State. Delaware and NADA support this proposal. The American Association of Motor Vehicle Administrators (AAMVA) states that this requirement is “consistent with the language of the 1988 amendment to the Truth in Mileage Act and NHTSA’s final rule which requires that secure powers of attorney be issued by the jurisdictions.” AAMVA notes that some States will phase out the use of separate reassignment forms and others may contract with third-party agents for printing, issuing, and controlling secure reassignment documents. No one has commented in opposition to the proposal, and it is adopted in this final rule.

Exemptions

After publication of the August 1988 final rule, NHTSA was asked whether the lessee of a vehicle having a gross vehicle weight rating (GVWR) of more than 16,000 pounds or of a vehicle that is ten years old or older must furnish to his lessor a written statement regarding the vehicle’s mileage. Because the lessor, when transferring a vehicle with a GVWR of more than 16,000 pounds or a vehicle ten years old or older, is not required to give his transferee an odometer disclosure statement, we could see no reason to require a lessee of any of these types of vehicles, or of any vehicles that are not self-propelled, to give their lessor a written statement concerning the vehicle’s mileage. Accordingly, NHTSA proposed to amend section 580.6 to exempt the lessees of certain vehicles from the odometer disclosure requirements of section 580.7. Likewise, NHTSA proposed to exempt the lessors of certain vehicles from the notification requirements of section 580.7. The agency received no comments on this proposal and, accordingly, it is adopted as proposed.

The March 1989 Interim Final Rule

Security of Powers of Attorney

The PSRA provides that “consistent with the purposes of this Act and the need to facilitate enforcement thereof,” if a State permits their use, power of attorney forms shall be “set forth by means of a secure printing process (or other secure process).” To imple-

ment this requirement, the interim final rule revised section 580.4, which concerns the security of title documents and reassignment documents, to require power of attorney forms to meet the security criteria applicable to reassignment documents. The August 1988 Final Rule requires that reassignment documents be set forth by “a secure process,” not necessarily the same secure process used to secure title documents. The Delaware DMV commented that secure forms will entail some costs to the States, but did not oppose the provision. This aspect of the interim final rule is retained in this final rule.

Signature of Same Person as Transferor and Transferees

Since the PSRA has the effect of allowing a person to sign an odometer disclosure statement on the title as both the transferor and transferee in specified circumstances, the interim final rule amended section 580.5(h), which prohibited a person from signing an odometer disclosure statement as both the transferor and transferee in the same transaction. This amendment to section 580.5(h) permits a person to sign an odometer disclosure statement as both the transferor and transferee if the requirements of sections 580.13 and 580.14, which NHTSA also added in the interim final rule, have been met. No commenters opposed this amendment and it is retained in the final rule.

Elements of the Power of Attorney Form

Under section 580.13 of the interim final rule, if permitted by State law, a transferor whose motor vehicle title document is physically held by a lienholder may give his transferee a power of attorney for the purpose of making the mileage disclosure on the title document. The power of attorney must be on Part A of a secure form issued by a State and must contain a space for the transferor to disclose the mileage. The disclosure required to be made by the transferor to the transferee on the power of attorney form parallels the disclosure required to be made on the title by section 580.5. In addition, when such vehicles are resold, section 580.14 of the interim final rule provides that if State law permits, the subsequent purchaser may, on Part B of the same form, give his power of attorney to his transferor to acknowledge the transferor's mileage disclosure. The power of attorney must also contain a space in Part B for the transferor to disclose the mileage. The disclosure required to be made by the transferor to the transferee on Part B of the power of attorney form also parallels the disclosure required to be made on the title by section 580.5.

Section 580.15 of the interim final rule provides that the power of attorney form must also contain a certification in Part C of the form, to be completed by the person exercising the power of attorney, that he has reviewed the title and that no discrepancies exist. While the rule sets forth the information which

must be disclosed, and the form must be separated into parts A, B and C, each State is free to organize, in each part, the information required by the rule in any way it wishes. While the language of the required certification has been clarified, these aspects of the interim final rule are otherwise retained in this final rule.

Submission of Power of Attorney Form to the State

The PSRA provides that the “original [of the power of attorney form shall] be submitted back to the State by the person granted such power of attorney.” In conformity with this requirement, and to ensure appropriate enforcement of the odometer disclosure requirements, section 580.13(f) of the interim final rule required the transferee to submit the original power of attorney form to the State that issued it with an application for title and the transferor's title. In the preamble, NHTSA identified two ways in which this might be accomplished. The transferee could submit the power of attorney form after selling the vehicle, with the old title and his purchaser's title application, provided his purchaser (and the State) permits him to apply for title on behalf of the purchaser. Alternatively, the transferee could apply for title in his own name and submit the secure power of attorney form and his transferor's title with that application.

NHTSA received several comments in opposition to this provision of the rule. These comments assert that when the subsequent purchaser is another dealer, particularly an out-of-State wholesale dealer, under the law of most States, the initial dealer (transferee) would have to adopt the second alternative and retitle vehicles in his own name. This so-called “retitling requirement,” it is argued, is a misinterpretation of the statute and will “disrupt existing commercial practices” of dealers, who would otherwise reassign the old title but will now have to apply for a title themselves, and for the States, who will have to process increased numbers of title applications.

NHTSA agrees that some dealers will have to retitle in their own names, although NHTSA disagrees that it has misinterpreted the statute to “require” retitling. Rather, given our experience with State titling procedures, these appear to be the only viable methods to preserve the integrity of the paper trail and conform to the requirements of the statute.

Moreover, we do not agree that any retitling that becomes necessary will present a significant burden to dealers or to States. First, a majority of all vehicles taken in trade will not have to be retitled in the dealer's name. Second, and perhaps more important, retitling will not prevent cars from being promptly resold. In a majority of States, a vehicle may be sold without the title being present. Thus, standard commercial practice in many places has traditionally been for vehicles to be sold without the title present and

for the title to “catch up” with the vehicle at a later point. Any retitling necessitated by this rule will not disturb this practice. The only difference is that the “new” title will be reassigned instead of the “old” title. At most it will add a small amount of time required for the title to “catch up” with the vehicle because dealers can often secure titles to vehicles in their own names within a day or two through existing dealer retitling arrangements with State departments of motor vehicles.

Even in the States that do require the title to be present before sale, retitling should not cause significant disruption of existing practices because dealers must already wait for the title to arrive from the lienholder, or for reissued titles to be sent from the State before they can resell vehicles. Any retitling in the dealer’s name will only extend briefly the period the dealer must wait before he can resell. Thus, although there will be some retitling costs and some costs associated with delay, these costs will not be unduly burdensome. Further, in most instances, retitling will not interfere with the standard flow of commerce because vehicles will continue to be sold pending arrival of the title, as they have been in the past.

Commenters have suggested alternatives to the ones we have presented. However, these cannot be adopted because they would be inconsistent with the statute. For example, NIADA, NADA and the Iowa Department of Transportation each proposed that the dealer granted power of attorney not be required to submit the original power of attorney form back to the issuing State. They suggested that the dealer should, instead, be allowed to reassign title and the dealer/person next applying for title should be allowed to submit the form back to the issuing State. This proposal cannot be adopted because the PSRA clearly requires “the *original* [secure power of attorney form] to be submitted back to the State *by the person granting such power of attorney*.” (Emphasis added.)

Alternatively, NADA has suggested allowing the original power of attorney to be submitted with the application for title in the new titling State, whether or not that State was the issuing State. Under such an arrangement, NADA suggests that the person granted the power of attorney could attach the original power of attorney to the old title and note or stamp “POA” in the reassignment block. There are several problems with this alternative. First, to do so would be in contravention of the statute. Not only would the dealer who exercised the power of attorney not be returning the form, but the form would not be going “back” to the issuing State. NADA has attempted to read the statute to allow for the return of the form to *any* State. However, we do not believe that the statutory language requiring the secure power of attorney form be issued by “the State” and “submitted back to the State” is susceptible of that

interpretation. Rather, it is clear that Congress intended the secure power of attorney form to be returned to the same State that issued it by the person who was granted and exercised the power of attorney.

Moreover, submission of the power of attorney form to a State other than the one that had issued it would jeopardize the integrity of the paper trail. In contrast to the issuing State, another State would be less familiar with the forms, and therefore less likely to detect improperly completed or fraudulently submitted forms. Although certain information must be disclosed, and the power of attorney form must be organized into Parts A, B, and C, each State is free to organize, in each part, the information required by the rule in any way it wishes. States may also add information or incorporate other things into the power of attorney forms. Allowing a State to receive another State’s power of attorney forms would also interfere with the issuing State’s ability to control the forms because the issuing State would not know whether, or to where, its forms were being returned.

It has also been suggested that the dealer be allowed to file the power of attorney form with the issuing State, either absent any other documentation or with a copy of the reassigned title that has been passed to a buyer. If the person granted power of attorney were not required to submit the power of attorney to the State with the application for title and the transferor’s title, enforcement of the anti-fraud provisions of the law would be hampered. First, the integrity of the paper trail would be at risk because subsequent transferors could discard the power of attorney, forge a new one, and alter the mileage on the title. (We recognize that even with securely printed titles, some alterations have been, and may continue to be, undetected upon initial review by State Departments of Motor Vehicles.) Additionally, the paper trail would be jeopardized if the person granted the power of attorney submitted only the power of attorney form and no title documents, particularly if the vehicle were sold to an out-of-State buyer. The title would be in one State and the power of attorney form in another; they could not easily be compared. This would create problems similar to those experienced with the current use of separate odometer statements.

Allowing the power of attorney form to be filed with the issuing State separately, even along with a copy of the reassigned original title, would also make retention of the form less likely. The States currently retain copies of all title applications and accompanying materials. Separately submitted documents are frequently disposed of by the States. Thus, if the power of attorney form is part of a title application package, a copy of the form, independent of the dealer and customer copies, will exist. Having this independent source of documentation will aid in enforcement, for although a dealer would face penalties for failure

to retain the secure power of attorney form as required by Section 580.8, an unscrupulous dealer might choose to face that penalty rather than risk retaining damaging paperwork. The State's records would provide the evidence to catch such an unscrupulous dealer. Further rulemaking on this issue might be appropriate if, in the future, it is determined that the States had adopted adequate methods to retain power of attorney forms submitted without title applications.

NADA has also suggested that "NHTSA also may want to consider a requirement that states which receive out-of-state power of attorney forms as part of title applications either return those forms to the states of issuance or, more reasonably, make copies available to the states of issuance upon request." This suggestion suffers from the same drawbacks as the other suggestions discussed above. First, any arrangement in which the power of attorney form is submitted to any State other than the issuing State, or is submitted to the issuing State by someone other than the person who exercised the power of attorney is inconsistent with the PSRA. Second, under this proposed arrangement, the record retention problem would continue to exist because the issuing State would be receiving the power of attorney form separately from any application for title. As discussed above, this represents an unjustified risk to enforcement.

Availability of Secure Powers of Attorney

Although the PSRA explicitly authorizes the use of powers of attorney to disclose odometer information only when the title is "physically held by a lienholder," during the floor debate in the House of Representatives, Rep. Dingell stated that he expected NHTSA to examine other situations in which the use of a power of attorney to disclose odometer information might be appropriate. *See* 134 Cong. Rec. H10080 (daily ed. Oct. 12, 1988). In response to this direction, NHTSA has considered other such instances. To facilitate commercial practices in situations where a power of attorney was used at the time the vehicle was sold to the dealer, the interim final rule authorized use of the same power of attorney form for the dealer's sale of the vehicle. Thus, section 580.14 permits, if allowed by State law, a transferee under these circumstances to give his power of attorney to his transferor (i.e., the dealer) for the purpose of reviewing title documents and any reassignment documents to determine whether there are any mileage discrepancies and, if there are no mileage discrepancies, to sign the title, acknowledging the disclosure. This power of attorney must include a disclosure from the transferor to the transferee that parallels the disclosure required to be made by the transferor to the transferee on the title document. In addition, the

appointment of the transferor as the transferee's attorney-in-fact must be made on Part B of the same secure power of attorney form, issued by the State, upon which the transferor was appointed the attorney-in-fact by his transferor pursuant to section 580.13. This enables purchasers to examine the previously issued power of attorney for mileage disclosure alterations, erasures or other marks, and to learn the name of the prior owner without the additional cost of a title search.

NADA and NIADA submitted comments (supported also by NAAA) criticizing the fact that the interim final rule does not allow for the use of secure powers of attorney in situations where the customer's title is not present because the customer has lost or misplaced the title. NADA and NIADA contend that this aspect of the interim final rule will cause a disruption to standard business practices because the title replacement process takes too long. When the title is replaced, it is usually mailed to the dealer, thereby requiring a return trip by the customer to make the disclosure. Moreover, even if the replacement title is mailed to the previous owner, after making the disclosure, he or she will either have to return to the dealer or send the title back to the dealer by mail. Further, NADA and NIADA maintain that the legislative history of the PSRA demonstrates Congress' intention that the use of secure powers of attorney be extended to cover lost title situations.

We do not agree that it was Congress' manifest intent that secure powers of attorney be available in lost title situations. Nevertheless, we have determined that the security of the power of attorney forms, combined with the control that the States plan to exercise over the forms, will serve to counteract the increased opportunity for fraud that will arise from allowing the use of powers of attorney in lost title situations. We are, therefore, adopting NADA's and NIADA's suggestion. This final rule allows, if State law permits, a secure power of attorney to be used for the purpose of odometer disclosure where the title is not present because it has been lost by the person to whom it was issued by the State. In order for a power of attorney to be used in the lost title situation, the transferee (i.e., the dealer) must apply for the duplicate title on behalf of the transferor. Under these conditions, the powers of attorney will be available to facilitate consumer vehicle sales transactions, but will not be available in other than consumer sales transactions where the risk of fraud is considerably greater. If experience demonstrates that this use of powers of attorney does lead to additional odometer fraud, we may decide to revise this expansion of authority.

NVLA submitted comments regarding another aspect of the limited availability of secure powers of attorney. NVLA expressed concern that, as written,

the regulation prevents leasing companies, acting as transferors, from using powers of attorney to acknowledge for their purchasers the mileage disclosures they make, even when the leasing companies' titles are held by their lienholders. The inability to use a power of attorney in this situation, NVLA argues, presents a problem because the "buyer may live a great distance from the lessor's place of business" and that the buyer would face a "significant hardship" in appearing to sign the lessor's disclosure on the title.

NVLA suggests that the rule be amended to permit the use of a secure power of attorney whenever the title is held by "a lienholder", rather than by the transferor's lienholder. Second, NVLA suggests allowing Part B of the secure power of attorney form to be used, without the completion of Part A. Under this proposal, Part A would contain only the vehicle information when the form is used for the Part B power of attorney only. Finally, NVLA suggests requiring the secure power of attorney form for which Part A is not completed be returned to the State with an application for title. These suggestions are not adopted. NVLA seems to misapprehend the intended use of secure powers of attorney under the rule. Further, the "solution" suggested by NVLA would not appear to remedy the perceived problem.

Use of a secure power of attorney was never intended in the situation where a leasing company (or other business) is seeking to sell a vehicle it owns; neither is such use necessary. The availability of a secure power of attorney is intended to facilitate consumer vehicle transactions. Often the consumer car owner is unable to present his title at the time of the sale of the vehicle because the title is held by the consumer's lienholder and the consumer cannot satisfy the lien by himself; the power of attorney arrangement enables the consumer to sell the vehicle to the dealer, who can pay off the lien, and allows the dealer to complete the required odometer disclosure on the title when the title arrives without bringing the consumer back into the transaction either through use of the mails or by having the consumer return to the dealership in person. The legislative history of the Pipeline Safety Reauthorization Act reinforces this intention: "The amendment . . . specifically refers to situations where a vehicle's title, because of financing, is held by a lienholder, such as a bank, and not the consumer. In such cases, the consumer cannot fill in the mileage because he or she does not physically hold the title." (Remarks of Rep. Dingell, 134 Cong. Rec. H10079 (daily ed. Oct 12, 1988)).

In the case of a leasing company, the leasing company would itself be paying off the lien, not the buyer. Thus, even if the title was not present at the time of sale, after the leasing company received the title from its lienholder, the company could make the disclosure,

mail it to the buyer, have the buyer sign it and mail a copy back to the leasing company. Thus, no power of attorney is necessary.

Although nowhere explicitly stating so, NVLA seems concerned about the mailing of required paperwork. With the establishment in this final rule of penalties for the transferee's failure to return required paperwork, this concern should be ameliorated. Moreover, any problem presented by mailing titles would also occur when mailing the secure power of attorney form. Even under NVLA's proposal, in order for the buyer to see the leasing company's disclosure on the secure power of attorney form and to sign the power of attorney, either the buyer would have to appear at the lessor's place of business or the lessor would have to mail the form to the buyer and rely on the buyer to complete his portion of the form and mail it back. NVLA does not explain how this situation differs from having the buyer appear to sign the title, or mailing the title to the buyer, nor how the use of a power of attorney would be less burdensome. Moreover, even if NHTSA were to allow the use of secure powers of attorney where the leasing company's title was held by its lienholder, the "problem" NVLA complains of would still exist where the title was not being held by a lienholder, but by the leasing company itself. NVLA does not suggest that the use of a secure power of attorney be allowed where the leasing company already has the title to the vehicle it is selling.

In addition, NHTSA is concerned about the increased risk to enforcement resulting from extending the availability of powers of attorney to transactions like the ones outlined by NVLA. Any use of a power of attorney increases the possibility of fraud and entails some additional risk to enforcement efforts. NHTSA does not believe that the increased possibility for fraud is warranted in this situation, particularly because the use of a power of attorney in this situation would not significantly facilitate transactions that are otherwise impeded.

The Certification Requirements

To ensure that a person who exercises a power of attorney, whether under section 580.13 or both sections 580.13 and 580.14, is fully aware of his obligations and his liability for any action that is inconsistent with the power of attorney, the interim final rule required, under section 580.15, that the person exercising the power of attorney complete, on Part C of the secure power of attorney form issued by the State, a certification that he has "reviewed the title and any reassignment documents for mileage discrepancies and that no discrepancies exist." Pursuant to section 580.15(b), any mileage discrepancies would void the power of attorney.

NADA and NIADA have both objected to this cer-

tification requirement. Both groups have asserted that the requirement is neither required nor intended under the statute, and that NHTSA was, therefore, without authority to institute it. We disagree. Section 401 of the PSRA directs NHTSA to impose by rule "reasonable conditions" on the use of powers of attorney. Moreover, the statute provides that NHTSA's rules must be "consistent with the purposes of [the Cost Savings] Act and the need to facilitate enforcement thereof." The Truth in Mileage Act requires that the odometer disclosure appear on the title to enable consumers to see these disclosures on titles and the chain of ownership of the vehicle. The use of a power of attorney, although commercially useful, interferes with that aspect of the Truth in Mileage Act because, when using the secure power of attorney form, the dealer is the only person who actually gets to see the title. The certification requirement will facilitate enforcement, without imposing a significant burden on dealers, and is appropriate to carry out Congress' intention to protect the interests of consumers in connection with motor vehicle sales transactions.

Substantively, NADA's comments reflect a concern, shared by NIADA, that "the certification provision . . . appears to impose a wholly new responsibility, that is, to review and attest to the validity of prior disclosures." It has never been NHTSA's intent that this certification requirement place new liabilities on dealers. Further, the dealers are not expected to verify or attest to the validity of prior disclosures. Rather, under the certification requirement, dealers must check the title and compare the disclosure on the power of attorney against the mileage on the title for discrepancies between the disclosures.

NADA points out that current common law and statutory duties already require the dealer to act in a lawful manner and that accepting and/or submitting to the State paperwork that contained discrepancies would currently subject the dealer to liability under the MVICSA and many State laws. We agree. The certification requirement is not intended to create liabilities beyond those already existing, but rather to discourage the dealer from passing on to his buyer a false disclosure received from his transferor on the secure power of attorney form, by encouraging the dealer to "look twice" before acting.

Upon reflection, we have concluded that the current language in Part C of the power of attorney form requiring the dealer to certify that "there are no indications of mileage discrepancies" may not have clearly reflected our intent. Accordingly, we have decided to adopt, with minor modification, a proposal submitted by NADA and NIADA in their June 14, 1989, supplemental comments to change the language of the certification. This final rule amends section 580.15 to provide that a person who exercises a power of at-

torney under section 580.13 and 580.14 must complete a certification that he has disclosed the mileage on the title document consistent with the mileage disclosed to him on the power of attorney form and that he has examined the title and the mileage disclosure made on the title pursuant to the power of attorney is greater than the mileage previously stated on the title.

The certification we are requiring differs from the NADA/NIADA proposal in three minor respects. First, consistent with the terms of existing section 580.15 and the purposes of the certification requirement, Part C will provide that the dealer has reviewed any reassignment documents that are attached to the title as well as the title itself. Second, we are requiring that the person exercising the power of attorney certify that the mileage he enters on the title "is higher" than the mileage already appearing on the title, rather than, as was proposed, "appears higher." The number entered on the title either will or will not be higher than the mileage disclosed on the power of attorney form; thus, "appears" is not appropriate. Finally, we are requiring the person exercising the power of attorney to make his certification "upon examination" of the title, rather than "upon normal visual examination." We consider the term "examination" in this context to be self-defining. Moreover, the term "normal" is vague and its use would only likely cause confusion among dealers as to what constitutes a "normal" examination.

We are aware that at least one State has begun printing secure power of attorney forms with a Part C that contains the language of the certification required under the interim final rule. Since we view the amendments to Part C made in this final rule as a clarification of our prior rule, rather than a substantive change, in order to avoid hardship to that State, and any others that may have already invested in secure power of attorney forms, NHTSA will construe the certification on those forms as carrying the same meaning as if they were worded as required under this final rule. However, to avoid any possible confusion, we urge those States to switch to the current language as soon as possible.

It has been suggested that the certification requirement is most fitting to the "second sale" situation where the subsequent purchaser's only link to the title will be the dealer. We think there is merit to this argument. Thus, in this final rule, we are amending section 580.15 to provide that the certification requirement will apply only when the dealer is exercising a power of attorney for both the "first sale" and "second sale" customers, as provided for in sections 580.13 and 580.14. If the title is present at the time of the second sale, the purchaser will be able to review the title himself to assure that the mileage is entered in accordance with the initial transferor's power of

attorney and is higher than the mileage appearing on the title and reassignment documents. (As a practical matter, the mileage entered by the dealer could never be lower than the mileage already on the title, since if the power of attorney set forth a lower mileage, it would void the power of attorney, and the dealer would not be authorized to sign the disclosure on behalf of the transferor.)

Section 580.15(b) of the interim final rule provides that any mileage discrepancies void the power of attorney. NADA and NIADA have suggested that “mistakes by a grantee” should not void the power of attorney. However, we continue to believe that this provision is vital; if the mileage appearing on the title (or reassignment documents) is greater than the mileage disclosed by the first sale transferor on the power of attorney form, or if the title disclosure does not exactly match the disclosure on the power of attorney, the power of attorney should not be used to pass on inaccurate information. It is immaterial whether the discrepancy occurs through design or mistake, or whether it is caused by the grantor, grantee, or someone else. The power of attorney is voided by the existence of a discrepancy, not by an action causing a discrepancy. For these reasons, the suggestion that grantee mistakes should not void the power of attorney is rejected.

Transferee Access to Previous Title and Power of Attorney Documents

Under section 580.14(h) of the interim final rule, if the transferee who is granted a power of attorney from his transferor applies for title in his own name, the transferee must show his purchaser, upon his purchaser’s request, a copy of the previous owner’s title, including the odometer disclosure completed on behalf of the previous owner, and a copy of the power of attorney form completed by the previous owner. Similarly, under section 580.14(g) of the interim final rule, if a second-sale purchaser decides not to appoint his transferor (i.e., the dealer) as his attorney-in-fact pursuant to section 580.14, the transferor must show his purchaser a copy of the previous owner’s title and a copy of the power of attorney form completed by the previous owner. No one commented in opposition to these provisions and they are retained in the final rule. However, for organizational clarity, these provisions have been separated out of section 580.14, and appear, renumbered, as new sections 580.16(a) and 580.16(b).

Record Retention

Section 401 of the PSRA requires NHTSA’s rules to provide for the retention of the power of attorney form. The interim final rule amended section 508.8, which concerns odometer disclosure statement retention, by adding a new paragraph (c). Under this

paragraph, motor vehicle dealers and distributors who are assigned a power of attorney by their transferors are required to retain, for five years, a photostat, carbon, or other facsimile copy of each power of attorney they receive. These documents must be retained at the primary place of business of the dealer or distributor in an order that is appropriate with business requirements and that permits systematic retrieval. This paragraph is consistent with the retention requirement of the August 1988 final rule that is applicable to dealers, distributors, and lessors. Like the August rule, the storage provision of this amendment is phrased broadly to include any media by which information may be stored, provided there is no loss of information. No one has commented in opposition to this retention requirement, and it is retained unchanged in this final rule.

Miscellaneous Matters

In addition to the matters discussed above, some minor changes to the language of sections 580.13, 580.14, and 580.15 have been made. The purpose of these changes is merely to simplify or clarify the text of the rule. No alterations of rights or duties, except to the extent already discussed above, are intended.

AAMVA asked NHTSA to provide clarification on the use of secure power of attorney in two situations. The first question presented is whether or not the power of attorney provisions apply to the practice of “floor planning.” (“Floor planning” is a practice by which a financial institution will physically hold a title as security for financing, without formally filing or recording a security interest, on a vehicle offered for sale by a dealer.) This “floor planning” arrangement does not qualify for use of the power of attorney. The PSRA allows for the use of a secure power of attorney in cases where “a transferor to whom title to a motor vehicle has been issued by a State” does not have the title because the title is being physically held by the lienholder. Thus, because the dealer is not the person to whom the title was issued by the State, the dealer may not use a power of attorney form for purposes of mileage disclosure under these circumstances. Moreover, even in situations in which a dealer has retitled a vehicle in his own name prior to surrendering the title under a “floor planning” arrangement use of a power of attorney is not available, because the financial institution is not considered a lienholder because no formal lien has been filed and recorded with the State. Because NHTSA believes that the statutory language clearly enough settles this matter, adding qualifying language on “floor planning” to the final rule, as AAMVA has suggested, is not considered appropriate.

The second situation about which AAMVA is seeking clarification is where the lending institution that financed the vehicle’s purchase is located in a State

that requires the lienholder to hold the title as security, but the vehicle is registered in a different State, which allows the owner, rather than the lienholder to hold the title. Under the PSRA, the availability of secure powers of attorney is always subject to State permission. States that choose to make secure powers of attorney available for transactions in which a consumer's title is unavailable because it is held by an out-of-state lienholder may do so. In States that choose not to allow the use of a secure power of attorney, in some or all circumstances, a transferor not in possession of his or her title at the time of sale will have to return to the dealership to sign the title when it is received, or else complete the transaction by mail.

NAAA submitted comments concerning the implications of the general prohibition on the same person signing as transferor and transferee in the same transaction for auto auctions in so-called "chain-of-title" States. In most States, auto auctions are brokers between buyers and sellers, facilitating sales between interested parties. As part of the service auctions provide, many auctions regularly act as agents under a power of attorney for their sellers to complete the necessary paperwork accompanying the sale, including making the required odometer disclosure. In Arizona, California and Colorado, however, auctions have been required by law to appear in the "chain of title." In these states, NAAA notes, "auctions simultaneously take a reassignment from the seller and give a reassignment to the buyer", thereby appearing, however briefly, to own the vehicle. Hence, under the rule, in these states the seller must disclose the mileage to the auction and the auction must execute a separate disclosure to the buyer. Furthermore, the auction is prevented under section 580.8(h) from using the seller's power of attorney to make the disclosure for the seller to the auction and then signing the disclosure as transferee.

The NAAA has appealed to NHTSA to amend section 580.6 to include an exemption from the disclosure requirement for auctions which are required by State law to take reassignment from the seller and give it to the buyer, provided that the selling customer makes a disclosure to the buyer, who acknowledges it as required. NHTSA declines to adopt the suggestion of the NAAA. We understand NAAA's concerns; however, we consider the problem faced by auctions in the "chain-of-title" States essentially one to be worked out by those States and the affected auctions. We are concerned that a proliferation of exemptions to the regulatory requirements will inhibit enforcement of the statute. Therefore, NHTSA considers the creation of another category of exempted transferors inappropriate.

Finally, the Florida DMV expressed concern that the sample secure power of attorney form appearing at Appendix E of the interim final rule does not em-

power the attorney-in-fact to actually transfer ownership of the vehicle, and that another form will be required. The sample form at Appendix E represents only the minimum acceptable elements of a power of attorney for the purpose of mileage disclosure. Nothing in the interim final rule, or this final rule, prevents a State from including a space on the power of attorney form for a grant of power of attorney for the purpose of transferring title.

Federalism Assessment

In adopting the PSRA, Congress apparently found that limiting the use of powers of attorney in connection with mileage disclosure could cause an undue burden on dealers and consumers. To resolve the problem and alleviate the potential costs for dealers and consumers, the new law specifies that power of attorney may be used in certain circumstances, if otherwise permitted by State law. This final rule does not impose any requirements upon the States other than those imposed by the law. Nevertheless, this action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. The States may decide not to allow the use of powers of attorney in connection with mileage disclosure and, therefore, would not be required to print conforming forms. Those States that choose to allow the use of powers of attorney will incur some costs from processing applications, maintaining records and issuing new titles resulting from the requirement that the power of attorney form be returned to the State along with a title application. However, as the States may decide not to allow the use of powers of attorney in connection with mileage disclosure, they would not be required to incur these costs. Additionally, while it is estimated that the final rule would result in additional costs to the States for printing secure title reassignment documents and power of attorney forms, the cost to each State is minimal and could easily be recouped from those who are applying for the forms.

Under section 553(d) of the Administrative Procedures Act, 5 U.S.C. 553(d), a substantive rule may become effective before thirty days after its publication where it relieves a restriction, or as otherwise provided for by the agency for good cause. The sections that are immediately effective are those dealing with powers of attorney. These sections, although subject to the alterations discussed herein, were already effective. Moreover, the substantive changes relieve restrictions on the use of powers of attorney and, therefore, may be made effective upon publication.

In consideration of the foregoing, 49 CFR Part 580 is amended as follows:

1. In section 580.3, the definitions of "transferor"

and “transferee” are revised to read as follows:

§580.3 Definitions.

* * * * *

“Transferee” means any person to whom ownership of a motor vehicle is transferred, by purchase, gift, or any means other than by the creation of a security interest, and any person who, as agent, signs an odometer disclosure statement for the transferee.

“Transferor” means any person who transfers his ownership of a motor vehicle by sale, gift, or any means other than by the creation of a security interest, and any person who, as agent, signs an odometer disclosure statement for the transferor.

2. Section 580.4 is revised to read as follows:

§580.4 Security of title documents and power of attorney forms.

Each title shall be set forth by means of a secure printing process or other secure process. In addition, power of attorney forms issued pursuant to §§ 580.13 and 580.14 and documents which are used to reassign the title shall be issued by the State and shall be set forth by a secure process.

3. Section 580.5 is amended by revising paragraphs (c), (f) and (h) to read as follows:

§ 580.5 Disclosure of odometer information

* * * * *

(c) In connection with the transfer of ownership of a motor vehicle, each transferor shall disclose the mileage to the transferee in writing on the title or on the document being used to reassign the title. This written disclosure must be signed by the transferor, including the printed name. In connection with the transfer of ownership of a motor vehicle in which more than one person is a transferor, only one transferor need sign the written disclosure. In addition to the signature and printed name of the transferor, the written disclosure must contain the following information:

(1) The odometer reading at the time of transfer (not to include tenths of miles);

(2) The date of transfer;

(3) The transferor’s name and current address;

(4) The transferee’s name and current address; and

(5) The identity of the vehicle, including its make, model, year, and body type, and its vehicle identification number.

* * * * *

(f) The transferee shall sign the disclosure statement, print his name, and return a copy to his transferor.

* * * * *

(h) No person shall sign an odometer disclosure statement as both the transferor and transferee in the same transaction unless permitted by §§ 580.13 or 580.14.

4. Section 580.6 is amended by revising the introductory text and paragraph (a) and by adding a

paragraph (c) to read as follows:

§ 580.6 Exemptions

Notwithstanding the requirements of §§ 580.5 and 580.7:

(a) A transferor or a lessee of any of the following motor vehicles need not disclose the vehicle’s odometer mileage:

(1) A vehicle having a Gross Vehicle Weight Rating, as defined in § 571.3 of this title, of more than 16,000 pounds;

(2) A vehicle that is not self-propelled;

(3) A vehicle that is ten years old or older; or

(4) A vehicle sold directly by the manufacturer to any agency of the United States in conformity with contractual specifications.

* * * * *

(c) A lessor of any of the vehicles listed in paragraph (a) of this section need not notify the lessee of any of these vehicles of the disclosure requirements of § 580.7.

5. Section 580.8 is amended by revising paragraph (c) to read as follows:

§ 580.8 Odometer disclosure statement retention.

* * * * *

(c) Dealers and distributors of motor vehicles who are granted a power of attorney by their transferor pursuant to § 580.13, or by their transferee pursuant to § 580.14, shall retain for five years a photostat, carbon, or other facsimile copy of each power of attorney that they receive. They shall retain all powers of attorney at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval.

6. Section 580.13 is revised to read as follows:

§ 580.13 Disclosure of odometer information by power of attorney.

(a) If the transferor’s title is physically held by a lienholder, or if the transferor to whom the title was issued by the State has lost his title and the transferee obtains a duplicate title on behalf of the transferor, and if otherwise permitted by State law, the transferor may give a power of attorney to his transferee for the purpose of mileage disclosure. The power of attorney shall be on a form issued by the State to the transferee that is set forth by means of a secure printing process or other secure process, and shall contain, in Part A, a space for the information required to be disclosed under paragraphs (b), (c), (d), and (e) of this section. If a State permits the use of a power of attorney in the situation described in § 580.14(a), the form must also contain, in Part B, a space for the information required to be disclosed under § 580.14, and, in Part C, a space for the certification required to be made under § 580.15.

In connection with the transfer of ownership of a motor vehicle, each transferor to whom a title was issued by the State whose title is physically held by

a lienholder or whose title has been lost, and who elects to give his transferee a power of attorney for the purpose of mileage disclosure, must appoint the transferee his attorney-in-fact for the purpose of mileage disclosure and disclose the mileage on the power of attorney form issued by the State. This written disclosure must be signed by the transferor, including the printed name, and contain the following information:

- (1) The odometer reading at the time of transfer (not to include tenths of miles);
- (2) The date of transfer;
- (3) The transferor's name and current address;
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model year, body type and vehicle identification number.

(c) In addition to the information provided under paragraph (b) of this section, the power of attorney form shall refer to the Federal odometer law and state that providing false information or the failure of the person granted the power of attorney to submit the form to the State may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(d) In addition to the information provided under paragraphs (b) and (c) of this section.

(1) The transferor shall certify that to the best of his knowledge the odometer reading reflects the actual mileage; or

(2) If the transferor knows that the odometer reading reflects mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or

(3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by a calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(e) The transferee shall sign the power of attorney form, print his name, and return a copy of the power of attorney form to the transferor.

(f) Upon receipt of the transferor's title, the transferee shall complete the space for mileage disclosure on the title exactly as the mileage was disclosed by the transferor on the power of attorney form. The transferee shall submit the original power of attorney form to the State that issued it, with the application for new title and the transferor's title. If the mileage disclosed on the power of attorney form is higher than the mileage appearing on the title the power of attorney is void and the dealer shall not complete the mileage disclosure on the title.

7. Section 580.14 is revised to read as follows:

§ 580.14 Power of attorney to review title documents and acknowledge disclosure.

(a) In circumstances where Part A of a secure power of attorney form has been used pursuant to § 580.13 of this Part, and if otherwise permitted by State law, a transferee may give a power of attorney to his transferor to review the title and any reassignment documents for mileage discrepancies, and if no discrepancies are found, to acknowledge disclosure on the title. The power of attorney shall be on Part B of the form referred to in § 580.13(a), which shall contain a space for the information required to be disclosed under paragraphs (b), (c), (d), and (e) of this section and, in Part C, a space for the certification required to be made under § 580.15.

(b) The power of attorney must include a mileage disclosure from the transferor to the transferee and must be signed by the transferor, including the printed name, and contain the following information:

(1) The odometer reading at the time of transfer (not to include tenths of miles);

(2) The date of transfer;

(3) The transferor's name and current address;

(4) The transferee's name and current address; and

(5) The identity of the vehicle, including its make, model year, body type and vehicle identification number.

(c) In addition to the information provided under paragraph (b) of this section, the power of attorney form shall refer to the Federal odometer law and state that providing false information or the failure of the person granted the power of attorney to submit the form to the State may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(d) In addition to the information provided under paragraphs (b) and (c) of this section,

(1) The transferor shall certify that to the best of his knowledge the odometer reading reflects the actual mileage; or

(2) If the transferor knows that the odometer reading reflects mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or

(3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by a calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(e) The transferee shall sign the power of attorney form, and print his name.

(f) The transferor shall give a copy of the power of

attorney form to his transferee.

8. Section 580.15 paragraphs (a) and (b) are revised to read as follows:

§ 580.15 Certification by person exercising powers of attorney.

(a) A person who exercises a power of attorney under both §§ 580.13 and 580.14 must complete a certification that he has disclosed on the title document the mileage as it was provided to him on the power of attorney form, and that upon examination of the title and any reassignment documents, the mileage disclosure he has made on the title pursuant to the power of attorney is greater than that previously stated on the title and reassignment documents. This certification shall be under Part C of the same form as the powers of attorney executed under §§ 580.13 and 580.14 and shall include:

(1) The signature and printed name of the person exercising the power of attorney;

(2) The address of the person exercising the power of attorney; and

(3) The date of the certification.

(b) If the mileage reflected by the transferor on the power of attorney is less than that previously stated on the title and any reassignment documents, the power of attorney shall be void.

9. Section 580.16 is added to read as follows:

§ 580.16 Access of transferee to prior title and power of attorney documents

(a) In circumstances in which a power of attorney has been used pursuant to § 580.13 of this Part, if a subsequent transferee elects to return to his transferor to sign the disclosure on the title when the transferor obtains the title and does not give his transferor a power of attorney to review the title and reassignment documents, upon the transferee's request, the transferor shall show to the transferee a copy of the power of attorney that he received from his transferor.

(b) Upon request of a purchaser, a transferor who was granted a power of attorney by his transferor and who holds the title to the vehicle in his own name, must show to the purchaser the copy of the previous owner's title and the power of attorney form.

10. The warning and Part C, Certification, of the

sample power of attorney form in Appendix E are amended to read as follows:

Appendix E—Power of Attorney Disclosure Form

Warning: This Form May Be Used Only When Title Is Physically Held By Lienholder Or Has Been Lost. This Form Must Be Submitted To The State By The Person Exercising Powers Of Attorney. Failure To Do So May Result In Fines And/Or Imprisonment.

* * * * *

Part C. Certification (To Be Completed When Parts A and B Have Been Used)

I, _____, (person exercising above powers of attorney, Print), hereby certify that the mileage I have disclosed on the title document is consistent with that provided to me in the above power of attorney. Further, upon examination of the title and any reassignment documents for the vehicle described above, the mileage disclosure I have made on the title pursuant to the power of attorney is greater than that previously stated on the title and reassignment documents. This certification is not intended to create, nor does it create any new or additional liability under Federal or State law.

|

(Signature)

(Printed Name)

Address (Street) _____

(City) _____ (State) _____ (Zip Code) _____

Date _____

Issued on (no date provided)

Jeffrey Miller
Acting Administrator

54 F.R. 35879
August 30, 1989

PART 580—ODOMETER DISCLOSURE REQUIREMENTS

(Docket No. 87-09; Notice 4)

§ 580.1 Scope.

This part prescribes rules requiring transferors and lessees of motor vehicles to make written disclosure to transferees and lessors respectively, concerning the odometer mileage and its accuracy as directed by sections 408(a) and (e) of the Motor Vehicle Information and Cost Savings Act as amended, 15 U.S.C. 1988 (a) and (e). In addition, this part prescribes the rules requiring the retention of odometer disclosure statements by motor vehicle dealers, distributors and lessors and the retention of certain other information by auction companies as directed by sections 408(g) and 414 of the Motor Vehicle Information and Cost Savings Act as amended, 15 U.S.C. 1990 (d) and 1988 (g).

§ 580.2 Purpose.

The purpose of this part is to provide purchasers of motor vehicles with odometer information to assist them in determining a vehicle's condition and value by making the disclosure of a vehicle's mileage a condition of title and by requiring lessees to disclose to their lessors the vehicle's mileage at the time the lessors transfer the vehicle. In addition, the purpose of this part is to preserve records that are needed for the proper investigation of possible violations of the Motor Vehicle Information Cost Savings Act and any subsequent prosecutorial, adjudicative or other action.

§ 580.3 Definitions.

All terms defined in Sections 2 and 402 of the Motor Vehicle Information and Cost Savings Act are used in their statutory meaning. Other terms used in this part are defined as follows:

“Lessee” means any person, or the agent for any person, to whom a motor vehicle has been leased for a term of at least 4 months.

“Lessor” means any person, or the agent for any person, who has leased 5 or more motor vehicles in the past 12 months.

“Mileage” means actual distance that a vehicle has traveled.

“Secure printing process or other secure process” means any process which deters and detects counterfeiting and/or unauthorized reproduction and allows alterations to be visible to the naked eye.

“Transferee” means any person to whom ownership of a motor vehicle is transferred, by purchase, gift, or any other means other than by the creation of a security interest, and any person who, as agent, signs an odometer disclosure statement for the transferee.

“Transferor” means any person who transfers his ownership of a motor vehicle by sale, gift, or any means other than by the creation of a security interest, and any person who, as agent, signs an odometer disclosure statement for the transferor. (54 F.R. 35879—August 30, 1989. Effective: September 29, 1989)]

§ 580.4 Security of title documents and power of attorney forms.

[Each title shall be set forth by means of a secure printing process or other secure process. In addition, power of attorney forms issued pursuant to §§ 580.13 and 580.14 and documents which are used to reassign the title shall be issued by the State and shall be set forth by a secure process. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

§ 580.5 Disclosure of odometer information.

(a) Each title, at the time it is issued to the transferee, must contain the mileage disclosed by the transferor when ownership of the vehicle was transferred and contain a space for the information required to be disclosed under paragraphs (c), (d), (e) and (f) of this section at the time of future transfer.

(b) Any documents which are used to reassign a title shall contain a space for the information required to be disclosed under paragraphs (c), (d), (e) and (f) of this section at the time of transfer of ownership.

(c) In connection with the transfer of ownership of a motor vehicle, each transferor shall disclose the mileage to the transferee in writing on the title or on the document being used to reassign the title. This written disclosure must be signed by the transferor, including the printed name. [In connection with the transfer of ownership of a motor vehicle in which more than one person is a transferor, only one transferor need sign the written disclosure. In addition to the signature and printed name of the transferor, the written disclosure must contain the following information: (54 F.R. 35879—August 30, 1989. Effective: September 29, 1989)]

- (1) The odometer reading at the time of transfer (not to include tenths of miles);
- (2) The date of transfer;
- (3) The transferor's name and current address;
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model, year, and body type, and its vehicle identification number.

(d) In addition to the information provided under paragraph (c) of this section, the statement shall refer to the Federal law and shall state that failure to complete or providing false information may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(e) In addition to the information provided under paragraphs (c) and (d) of this section,

- (1) The transferor shall certify that to the best of his knowledge the odometer reading reflects the actual mileage, or;
- (2) If the transferor knows that the odometer reading reflects the amount of mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or
- (3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by odometer calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage, and should not be relied upon. This state-

ment shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(f) The transferee shall sign the disclosure statement, [print his name, and return a copy to his transferor. (54 F.R. 35879—August 30, 1989. Effective: September 29, 1989)]

(g) If the vehicle has not been titled or if the title does not contain a space for the information required, the written disclosure shall be executed as a separate document.

(h) No person shall sign an odometer disclosure statement as both the transferor and transferee in the same transaction, unless permitted by § 580.13 or § 580.

§ 580.6 Exemptions.

Notwithstanding the requirements of § 580.5 [and 580.7]:

(a) A transferor [or a lessee] of any of the following motor vehicles need not disclose the vehicle's odometer mileage: (54 F.R. 35879—August 30, 1989. Effective: September 29, 1989)

- (1) A vehicle having a Gross Vehicle Weight Rating, as defined in § 571.3 of this title, of more than 16,000 pounds;
- (2) A vehicle that is not self-propelled;
- (3) A vehicle that is 10 years old or older; or
- (4) A vehicle sold directly by the manufacturer to any agency of the United States in conformity with contractual specifications.

(b) A transferor of a new vehicle prior to its first transfer for purposes other than resale need not disclose the vehicle's odometer mileage.

[(c) A lessor of any of the vehicles listed in paragraph (a) of this section need not notify the lessee of any of these vehicles of the disclosure requirements of § 580.7. (54 F.R. 35879—August 30, 1989. Effective: September 29, 1989)]

§ 580.7 Disclosure of Odometer Information for Leased Motor Vehicles.

(a) Before executing any transfer of ownership document, each lessor of a leased motor vehicle shall notify the lessee in writing that the lessee is required to provide a written disclosure to the

lessor regarding the mileage. This notice shall contain a reference to the federal law and shall state that failure to complete or providing false information may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(b) In connection with the transfer of ownership of the leased motor vehicle, the lessee shall furnish to the lessor a written statement regarding the mileage of the vehicle. This statement must be signed by the lessee and, in addition to the information required by paragraph (a) of this section, shall contain the following information:

- (1) The printed name of the person making the disclosure;
- (2) The current odometer reading (not to include tenths of miles);
- (3) The date of the statement;
- (4) The lessee's name and current address;
- (5) The lessor's name and current address;
- (6) The identity of the vehicle, including its make, model, year, and body type, and its vehicle identification number;
- (7) The date that the lessor notified the lessee of disclosure requirements;
- (8) The date that the completed disclosure statement was received by the lessor; and
- (9) The signature of the lessor.

(c) In addition to the information provided under paragraphs (a) and (b) of this section,

- (1) The lessee shall certify that to the best of his knowledge the odometer reading reflects the actual mileage; or
- (2) If the lessee knows that the odometer reading reflects the amount of mileage in excess of the designed mechanical odometer limit, he shall include a statement to that effect; or
- (3) If the lessee knows that the odometer reading differs from the mileage and that the difference is greater than that caused by odometer calibration error, he shall include a statement that the odometer reading is not the actual mileage and should not be relied upon.

(d) If the lessor transfers the leased vehicle without obtaining possession of it, the lessor may indicate on the title the mileage disclosed by the lessee under paragraph (b) and (c) of this section, unless the lessor has reason to believe that the

disclosure by the lessee does not reflect the actual mileage of the vehicle.

§ 580.8 Odometer Disclosure Statement Retention.

(a) Dealers and distributors of motor vehicles who are required by this part to execute an odometer disclosure statement shall retain for five years a photostat, carbon or other facsimile copy of each odometer mileage statement which they issue and receive. They shall retain all odometer disclosure statements at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval.

(b) Lessors shall retain, for five years following the date they transfer ownership of the leased vehicle, each odometer disclosure statement which they receive from a lessee. They shall retain all odometer disclosure statements at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval.

[(c) Dealers and distributors of motor vehicles who are granted a power of attorney by their transferor pursuant to § 580.13, or by their transferee pursuant to § 580.14, shall retain for five years a photostat, carbon, or other facsimile copy of each power of attorney that they receive. They shall retain all powers of attorney at their primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

§ 580.9 Odometer Record Retention for Auction Companies.

Each auction company shall establish and retain at its primary place of business in an order that is appropriate to business requirements and that permits systematic retrieval, for five years following the date of sale of each motor vehicle, the following records:

- (a) The name of the most recent owner (other than the auction company);
- (b) The name of the buyer;
- (c) The vehicle identification number; and
- (d) The odometer reading on the date which the auction company took possession of the motor vehicle.

§ 580.10 Application for Assistance.

(a) A State may apply to NHTSA for assistance in revising its laws to comply with the requirements of 408(d)(1) and (2) of the Motor Vehicle Information and Cost Savings Act, 15 U.S.C. 1988(d)(1) and (2) and §§ 580.4 and 580.5 of this part.

(b) Each application filed under section shall—

(1) Be written in the English language;

(2) Be submitted, to the Office of Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590;

(3) Include a copy of current motor vehicle titling and/or disclosure requirements in effect in the State; and

(4) Include a draft of legislation or regulations intended to amend or revise current State motor vehicle titling and/or disclosure requirements to conform with Federal requirements.

(c) The agency will respond to the applicant, in writing, and provide a list of the Federal statutory and/or regulatory requirements that the State may have failed to include in its proposal and indicate if any sections of the proposal appear to conflict with Federal requirements.

§ 580.11 Petition for Approval of Alternate Disclosure Requirements.

(a) A State may petition NHTSA for approval of disclosure requirements which differ from the disclosure requirements of §§ 580.5 and 580.7 of this part.

(b) Each petition filed under this section shall—

(1) Be written in the English language;

(2) Be submitted to the Office of Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590;

(3) Set forth the motor vehicle disclosure requirements in effect in the State, including a copy of the applicable State law or regulation; and

(4) Explain how the State motor vehicle disclosure requirements are consistent with the purposes of the Motor Vehicle Information and Cost Savings Act.

(c) Notice of either a grant or denial of a petition for approval of alternate motor vehicle disclosure requirements is issued to the petitioner. The effect of a grant of a petition is to relieve a State from responsibility to conform the State motor vehicle titles with §§ 580.5 and 580.7 of this part during the time of the extension. The effect of a denial is to require a State to conform to the requirements of §§ 580.5 and 580.7 of this part until such time as the NHTSA approves any alternate motor vehicle disclosure requirements.

§ 580.12 Petition for Extension of Time.

(a) If a State cannot conform its laws to achieve compliance with this part by April 29, 1989, the State may petition for an extension of time.

(b) Each petition filed under this section shall—

(1) Be written in the English Language;

(2) Be submitted, by February 28, 1989, to the Office of Chief Counsel, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C., 20590;

(3) Set forth a chronological analysis of the efforts the State has taken to meet the deadline, the reasons why it did not do so, the length of time desired for extension and a description of the steps to be taken while the extension is in effect.

(c) Notice of either the grant or denial of the petition is issued to the petitioner and will be published in the *Federal Register*.

(d) A petition for a renewal of an extension of time must be filed no later than 30 days prior to the termination of the extension of time granted by the Agency. A petition for a renewal of an extension of time must meet the same requirements as the original petition for the extension of time.

(e) If a petition for a renewal of the extension of the time which meets the requirements of § 580.12 (b) is filed, the extension of time will continue until a decision is made on the renewal petition.

§ 580.13 Disclosure of odometer information by power of attorney.

[(a) If the transferor's title is physically held by a lienholder, or if the transferor to whom the title was issued by the State has lost his title and the transferee obtains a duplicate title on behalf of the transferor, and if otherwise permitted by State law, the transferor may give a power of attorney to

his transferee for the purpose of mileage disclosure. The power of attorney shall be on a form issued by the State to the transferee that is set forth by means of a secure printing process or other secure process, and shall contain, in Part A, a space for the information required to be disclosed under paragraphs (b), (c), (d), and (e), of this section. If a State permits the use of a power of attorney in the situation described in § 580.14(a), the form must also contain, in Part B, a space for the information required to be disclosed under § 580.14, and in Part C, a space for certification required to be made under § 580.15.

(b) In connection with the transfer of ownership of a motor vehicle, each transferor to whom a title was issued by the State whose title is physically held by a lienholder or whose title has been lost, and who elects to give his transferee a power of attorney for the purpose of mileage disclosure, must appoint the transferee his attorney-in-fact for the purpose of mileage disclosure and disclose the mileage on the power of attorney form issued by the State. This written disclosure must be signed by the transferor, including the printed name, and contain the following information:

- (1) The odometer reading at the time transfer (not to include tenths of miles);
- (2) The date of transfer;
- (3) The transferor's name and current address;
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model, year, body type, and vehicle identification number.

(c) In addition to the information provided under paragraph (b) of this section, the power of attorney form shall refer to the Federal odometer law and state that providing false information or the failure of the person granted the power of attorney to submit the form to the State may result in fines and/or imprisonment. Reference may also be made to applicable State law. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

(d) In addition to the information provided under paragraphs (b) and (c) of this section,

- (1) The transferor shall certify that to the best of his knowledge the odometer reflects the actual mileage; or
- (2) If the transferor knows that the odometer reading reflects mileage in excess of the designed

mechanical odometer limit, he shall include a statement to that effect; or

(3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by a calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(e) The transferee shall sign the power of attorney form, print his name, and return a copy of the power of attorney form to the transferor.

(f) Upon receipt of the transferor's title, the transferee shall complete the space for mileage disclosure on the title exactly as the mileage was disclosed by the transferor on the power of attorney form. The transferee shall submit the original power of attorney form to the State that issued it, with the application for a new title and the transferor's title. [If the mileage disclosed on the power of attorney form is higher than the mileage appearing on the title, the power of attorney is void and the dealer shall not complete the mileage disclosure on the title. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

[§ 580.14 Power of attorney to review title documents and acknowledge disclosure.

[(a) In circumstances where Part A of a secure power of attorney form has been used pursuant to § 580.13 of this Part, and if otherwise permitted by State, law a transferee may give a power of attorney to his transferor to review the title and any reassignment documents for mileage discrepancies, and if no discrepancies are found, to acknowledge disclosure on the title. The power of attorney shall be on Part B of the form referred to in § 580.13(a), which shall contain a space for the information required to be disclosed under paragraphs (b), (c), (d), and (e) of this section and, in Part C, a space for the certification required to be made under § 580.15.

(b) The power of attorney must include a mileage disclosure from the transferor to the transferee and must be signed by the transferor, including the printed name, and contain the following information:

- (1) The odometer reading at the time of transfer (not to include tenths of miles);

- (2) The date of transfer;
- (3) The transferor's name and current address; and
- (4) The transferee's name and current address; and
- (5) The identity of the vehicle, including its make, model, year, body type, and vehicle identification number.

(c) In addition to the information provided under paragraph (b) of this section, the power of attorney form shall refer to the Federal odometer law and state that providing false information or the failure of the person granted the power of attorney to submit the form to the State may result in fines and/or imprisonment. Reference may also be made to applicable State law.

(d) In addition to the information provided under paragraphs (b) and (c) of this section.

(1) The transferor shall certify that to the best of his knowledge the odometer reflects the actual mileage; or

(2) If the transferor knows that the odometer reading reflects mileage in excess of the designated mechanical odometer limit, he shall include a statement to that effect; or

(3) If the transferor knows that the odometer reading differs from the mileage and the difference is greater than that caused by calibration error, he shall include a statement that the odometer reading does not reflect the actual mileage and should not be relied upon. This statement shall also include a warning notice to alert the transferee that a discrepancy exists between the odometer reading and the actual mileage.

(e) The transferee shall sign the power of attorney form, and print his name.

(f) The transferor shall give a copy of the power of attorney form to his transferee. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

[§ 580.15 Certification by person exercising power(s) of attorney.

[(a) A person who exercises a power of attorney under both §§ 580.13 and 580.14 must complete a

certification that he has disclosed on the title document the mileage as it was provided to him on the power of attorney form, and that upon examination of the title and any reassignment documents, the mileage disclosure he has made on the title pursuant to the power of attorney is greater than that previously stated on the title and reassignment documents. This certification shall be under Part C of the same form as the powers of attorney executed under §§ 580.13 and 580.14, and shall include:

- (1) The signature and printed name of the person exercising the power of attorney;
- (2) The address of the person exercising the power of attorney; and
- (3) The date of the certification.

(b) If the mileage reflected by the transferor on the power of attorney is less than that previously stated on the title and any reassignment documents, the power of attorney shall be void. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

[§ 580.16 Access of transferee to prior title and power of attorney documents.

(a) In circumstances in which a power of attorney has been used pursuant to § 580.13 of this Part, if a subsequent transferee elects to return to his transferor to sign the disclosure on the title when the transferor obtains the title and does not give his transferor a power of attorney to review the title and reassignment documents, upon transferee's request, the transferor shall show to the transferee a copy of the power of attorney that he received from his transferor.

(b) Upon request of a purchaser, a transferor who was granted a power of attorney by his transferor and who holds the title to the vehicle in his own name, must show to the purchaser the copy of the previous owner's title and the power of attorney form. (54 F.R. 35879—August 30, 1989. Effective: August 30, 1989)]

53 F.R. 29464
August 5, 1988

APPENDIX A

Secure Printing Processes and Other Secure Processes

1. Methods to deter or detect counterfeiting and/or unauthorized reproduction.

(a) *Intaglio printing*—a printing process utilized in the production of bank-notes and other security documents whereby an engraved plate meets the paper under extremely high pressure forcing the paper into the incisions below the surface of the plate.

(b) *Intaglio Printing With Latent Images*—a printing process utilized in the production of bank-notes and other security documents whereby an engraved plate meets the paper under extremely high pressure forcing the paper into the incisions below the surface of the plate. The three dimensional nature of intaglio printing creates latent images that aid in verification authenticity and deter counterfeiting.

(c) *High Resolution Printing*—a printing process which achieves excellent art clarity and detail quality approaching that of the intaglio process.

(d) *Micro-line Printing*—a reduced line of type that appears to be a solid line to the naked eye but contains readable intelligence under strong magnification.

(e) *Pantograph Void Feature*—wording incorporated into a pantograph by varying screen density in the pantograph. The wording will appear when attempts are made to photocopy on color copiers.

(f) *Hologram*—a defraction foil substrate, produced from a negative which was made by splitting a laser beam into two separate beams to produce a three dimensional effect.

(g) *Security Paper*—paper containing a security watermark and/or security thread.

2. Methods to allow alterations to be visible to the naked eye.

(a) *Erasure Sensitive Background Inks*—a process whereby the text is printed in a dark color ink over a fine line erasure-sensitive prismatic ink tint.

(b) *Security Lamination*—retro-reflective security laminate is placed over vital information after it has been entered to allow for detection of attempts to alter this information.

(c) *Security Paper*—paper which has been chemically treated to detect chemical alterations.

APPENDIX B
Disclosure Form for Title

Odometer Disclosure Statement

Federal law (and State law, if applicable) requires that you state the mileage upon transfer of ownership. Failure to complete or providing a false statement may result in fines and/or imprisonment.

I, _____, state that the odometer now reads _____ miles and to
(No Tenths)
the best of my knowledge that it reflects the actual mileage of the vehicle described below, unless one of the following statements is checked.

_____ I hereby certify that to the best of my knowledge the odometer reading reflects the amount of mileage in excess of its mechanical limits.

_____ I hereby certify that the odometer reading is NOT the actual mileage.

WARNING—ODOMETER DISCREPANCY.

(Transferor's Signature)

(Transferee's Signature)

(Transferor's Printed Name)

(Transferee's Printed Name)

(Street Address)

(Street Address)

(City) (State) (Zip Code)

(City) (State) (Zip Code)

Date of Statement _____

APPENDIX C
Separate Disclosure Form

Odometer Disclosure Statement

Federal law (and State law, if applicable) requires that you state the mileage upon transfer of ownership. Failure to complete or providing a false statement may result in fines and/or imprisonment.

I, _____, state that the odometer now reads _____ miles and to
(No Tenths)
the best of my knowledge that it reflects the actual mileage of the vehicle described below, unless
one of the following statements is checked.

_____ I hereby certify that to the best of my knowledge the odometer reading reflects the
amount of mileage in excess of its mechanical limits.

_____ I hereby certify that the odometer reading is NOT the actual mileage.

WARNING—ODOMETER DISCREPANCY.

Make _____ Model _____ Body Type _____ Year _____

Vehicle Identification Number (VID) _____

(Transferor's Signature)

(Transferee's Signature)

(Transferor's Printed Name)

(Transferee's Printed Name)

(Street Address)

(Street Address)

(City) (State) (ZIP Code)

(City) (State) (ZIP Code)

Date of Statement _____

APPENDIX D

Disclosure Form for Leased Vehicle

Odometer Disclosure Statement (Leased Vehicle)

Federal law (and State law, if applicable) requires that you state the millage upon transfer of ownership. Failure to complete or making a false statement may result in fines and/or imprisonment.

I, _____, state that the odometer now reads _____ miles
(No Tenths)

and to the best of my knowledge that it reflects the actual mileage of the vehicle described below, unless one of the following statements is checked:

_____ I hereby certify that to the best of my knowledge the odometer reading reflects the amount of mileage in excess of its mechanical limits.

_____ I hereby certify that the odometer reading is NOT the actual mileage.

WARNING—ODOMETER DISCREPANCY.

Make _____ Model _____ Body Type _____ Year _____

Vehicle Identification Number (VID) _____

Date Disclosure Form sent to

Date Disclosure Form received from

lessee: _____

lessee: _____

(Lessee's Signature)

(Lessor's Signature)

(Lessee's Printed Name)

(Lessor's Printed Name)

(Street Address)

(Street Address)

(City) State (ZIP Code)

(City) State (ZIP Code)

Date of Statement _____

APPENDIX E

Power of Attorney Disclosure Form

Warning: [This form may be used only when title is physically held by lienholder or has been lost. This form must be submitted to the State by the person exercising powers of attorney. Failure to do so may result in fines and/or imprisonment.] *

Vehicle Description

Year _____ Make _____ Model _____ Body Type _____

Vehicle Identification Number _____

Part A. Power of Attorney to Disclose Mileage

Federal law (and State law, if applicable) requires that you state the mileage upon transfer of ownership. Providing a false statement may result in fines and/or imprisonment.

I, _____, appoint _____
(Print transferor's name) (Print transferee's name)

as my attorney-in-fact, to disclose the mileage on the title for the vehicle described above, exactly as stated in the following disclosure.

I state that the odometer now reads _____ miles (no tenths) and to the best of my knowledge that it reflects the actual mileage unless one of the following statements is checked:

_____ I hereby certify that to the best of my knowledge the odometer reading reflects the amount of mileage in excess of its mechanical limits.

_____ I hereby certify that the odometer reading is NOT the actual mileage.

WARNING—ODOMETER DISCREPANCY.

(Transferor's Signature)

(Transferee's Signature)

(Transferor's Printed Name)

(Transferee's Printed Name)

(Street Address)

(Street Address)

(City) (State) (Zip Code)

(City) (State) (Zip Code)

Date of Statement _____

*54 F.R. 35879—August 30, 1989. Effective: September 29, 1989

Part B. Power of Attorney to Review Title Documents and Acknowledge Disclosure

Part B is invalid unless Part A has been completed.

I, _____, appoint _____
(Print transferee's name) (Print transferor's name)

as my attorney-in-fact, to sign the vehicle mileage disclosure on the title for the vehicle described above, only if the disclosure is exactly as the disclosure completed below.

Federal law (and State law, if applicable) requires that you state the millage upon transfer of ownership. Providing a false statement may result in fines and/or imprisonment.

I, _____, state that the odometer now reads _____ miles
(Transferor's name)

miles (no tenths) and to the best of my knowledge that it reflects the actual mileage unless one of the following statements is checked:

_____ I hereby certify that to the best of my knowledge the odometer reading reflects the mileage in excess of its mechanical limits.

_____ I hereby certify that the odometer reading is NOT the actual mileage.
WARNING—ODOMETER DISCREPANCY.

(Transferor's Signature)

(Transferor's Printed Name)

(Transferor's Printed Name)

(Transferor's Street Address)

(City) State (ZIP Code)

Date of Statement _____

Part C. Certification

【 (To be completed when Parts A and B have been used)

I, _____, hereby certify that the mileage
(Print name of person exercising above powers of attorney)

I have disclosed on the title document is consistent with that provided to me in the above power of attorney. Further, upon examination of the title and any reassignment documents or the vehicle described above, the mileage disclosure I have made on the title pursuant to the power of attorney is greater than that previously stated on the title and reassignment documents. This certification is not intended to create, nor does it create any new or additional liability under Federal or State law. **】** *

(Signature)

(Printed Name)

(Street Address)

(City) State (ZIP Code)

Date of Statement _____

* **【**54 F.R. 35879—August 30, 1989. Effective: September 29, 1989**】**

PREAMBLE TO PART 581—BUMPER STANDARD

(Docket No. 74-11; Notice 12; Docket No. 73-19; Notice 9)

This notice establishes a new bumper standard, limiting damage to vehicle bumpers and other vehicle surfaces in low-speed crashes.

The standard, 49 CFR Part 581, is issued under the authority of Title I of the Motor Vehicle Information and Cost Savings Act, Public Law 92-513, 15 U.S.C. 1901-1991. In addition to specifying limitations on damage to non-safety-related components and vehicle surface areas, it also incorporates the safety requirements currently contained in Federal Motor Vehicle Safety Standard No. 215, *Exterior Protection*.

Since the enactment of the Motor Vehicle Information and Cost Savings Act, the NHTSA has issued four proposals to establish a front and rear end damage ability standard that fulfills the objectives espoused in the law. Title I (*Bumper Standards*) directs the NHTSA to develop standards which "shall seek to obtain the maximum feasible reduction of costs to the public and to the consumer. . . ." Improving the damage resistance of a vehicle in low-speed impact situations will, in the opinion of Congress, save the consumer a significant amount of money.

During the past several years of ongoing rule-making in the bumper area, the NHTSA has continued to conduct studies and examine input from all interested persons. The most recent proposal was published March 12 of this year (40 FR 11598). After thoroughly reviewing the available data and comments submitted to the docket, the NHTSA has concluded that the provisions contained in the March notice would constitute a large step towards accomplishment of the goals described in Title I.

On January 2, 1975, the NHTSA proposed a reduction in the impact speeds specified in Standard 215 and proposed in Part 581 (40 FR 10). The NHTSA's proposal was based primarily on

the results of two agency-sponsored studies which indicated that the cost and weight of many current production bumpers, in light of inflation and fuel shortages, made the bumpers no longer cost-beneficial. Information presented at public hearings on the notice and comments submitted to the docket brought to light additional data which the NHTSA carefully examined. After reviewing its previous studies in light of this new evidence, the agency concluded that the 5-mph protection level (and the 3-mph corner impact level associated with it) should not be reduced. In its March 12, 1975, notice (40 FR 11598) the NHTSA fully explained this decision. Comments have been received from Toyo Kogyo, Volkswagen, Nissan, Motor Vehicle Manufacturers Association, Chrysler, General Motors, Toyota, and Gulf & Western urging the NHTSA to reconsider its rejection of the lower impact test speeds proposed in January.

For the reasons discussed in the March *Federal Register* notice the NHTSA has determined that the pendulum and barrier impact speeds should not be reduced and should remain at 5 mph.

General Motors (GM) submitted two documents, dated January 9, 1976, and January 15, 1976, which analyzed the costs and benefits of 1974 bumper systems based on field surveys conducted in Fort Wayne, Indiana and Milford, Michigan. The conclusion reached by GM in these studies was that the 1974 model year bumper systems were not cost-beneficial. They requested, based on the result of this study, that any raising of the current bumper standard requirements be delayed until longer-term benefit-cost analyses are made.

The NHTSA has examined this study and has concluded that the proposed Part 581 damage-ability standard, which will upgrade the bumper requirements, should be implemented in accord-

ance with the time schedule set forth in this notice. GM in its study has chosen to analyze the cost-effectiveness of bumper systems designed solely for safety component protection. The costs considered by GM have been those occasioned not only by damage to safety-related components, but to non-safety-related vehicle areas, as well. While it may be true that a bumper system that is designed primarily for safety component protection will also provide some degree of protection against non-safety-related damage, it is unreasonable to evaluate the cost-effectiveness of such a system on its capability to perform outside its primary design function. A bumper system designed to comply with Title I would necessarily provide protection to both safety and non-safety-related components and would thereby reduce the degree of damage suffered by most 1974 model vehicles involved in front and rear impacts. The cost-effectiveness of a Title I system, thus, cannot be realistically measured by an examination of 1974 systems which have been designed to provide a lower level of damage protection.

GM gathered data only on its own 1974 model cars and concluded that the impact of Standard 215 on all vehicles has not been cost-beneficial. Conclusions based on such limited data, however, are not sufficient reason for suspending further rulemaking to improve the damage protection capabilities of bumpers. As explained in the March 12, 1975, notice, considerable data have been presented indicating that the bumper systems on some current-model automobiles are heavier and costlier than necessary. This unnecessary weight not only adds to the initial costs, but also increases the life-time operating costs of the vehicle. The use of such bumpers, it has been concluded, has been the result of unnecessary design choices by motor vehicle manufacturers. Studies conducted by the NHTSA and Houdaille Industries, Inc., a bumper manufacturer, indicate that bumper systems utilizing current technology and designed to meet the Part 581 damageability requirements need not weigh any more than pre-standard-215 bumper systems. Basing future rulemaking on the results of a cost-benefit analysis utilizing bumper systems that have not been optimized would be unreasonable.

In the March 12, 1975, notice, the NHTSA proposed alternative effective dates for implementation of the initial Part 581 test requirements. The applicable requirements call for restricted surface damage except to components that actually contact the impact ridge of the pendulum test device or that fasten such components to the vehicle chassis frame. Commenters were asked to address the feasibility of satisfying the proposed damage criteria by September 1, 1976, September 1, 1977, or September 1, 1978. Chrysler said it could meet the prescribed damage level by September 1, 1976, but only if certain modifications in the test requirements were made. Volvo also stated that it could comply by September 1976, but warned of a significant cost penalty. Toyo Kogyo and British Leyland stated they could meet a September 1, 1977 effective date. Toyo Kogyo, however, commented that this would occasion high development costs. British Leyland, on the other hand, said that it could satisfy an earlier effective date, but only at significant cost. American Motors, Ford, and Toyota urged a September 1, 1978, effective date saying that amount of lead time was necessary to obtain compliance.

The Insurance Institute for Highway Safety, the National Association of Independent Insurers, and State Farm urged a 1976 effective date citing the need for regulation of damage to vehicle components and surface areas aside from those directly related to safety. The Insurance Institute supported its request for a 1976 effective date by stating that many existing cars are substantially able to meet the initial Part 581 requirements.

In the NHTSA's view, adoption of a 1976 or 1977 effective date would impose serious lead time problems on a number of manufacturers. Based upon information submitted by the automobile industry, bringing vehicles into compliance by September 1, 1976 or 1977, if possible at all, would entail the expenditure of large sums of money for redesign and retooling. A September 1, 1978 effective date would assure satisfactory compliance with the Part 581 requirements and would avoid the high costs that would occur as a result of an earlier effective date.

The NHTSA has, therefore, concluded that a September 1, 1978, effective date should be

adopted for implementation of the initial Part 581 damageability requirements. This amount of lead time appears necessary for all manufacturers to come into conformity with the provisions.

Toyo Kogyo, American Motors, Motor Vehicle Manufacturers Association, Chrysler, and Ford urged a delay in the proposed September 1, 1979 effective date for implementation of the "no damage" bumper requirements. Toyo Kogyo requested a 1983 effective date, while the other manufacturers suggested that no upgraded requirements be scheduled until field data have been gathered indicating the success of the interim requirements. The National Association of Independent Insurers, anxious for early implementation of the full range of bumper performance requirements, supported adoption of the proposed 1979 effective date.

The NHTSA has examined all of these comments and has concluded that the September 1, 1979 effective date should be adopted. This would provide a lead time of approximately 4 years, which appears sufficient to bring the vehicles into compliance. Awaiting the results of field data related to the interim requirements is not practicable. The information currently before the agency indicates that the proposed 1979 surface damage limitation is a substantial step towards achieving the level of bumper efficiency described by Congress in the Cost Savings Act. Waiting for the accumulation and analysis of additional information would unnecessarily and unreasonably delay the implementation of Part 581, a standard the agency is directed by law to promulgate.

The NHTSA has proposed in several past notices the adoption of test requirements that would allow the manufacture of vehicles with soft exterior surfaces. Currently, the Standard No. 215 exterior protection standard prohibits contact with Planes A and B of the pendulum test device since those areas represent parts of the vehicle that house safety components such as headlamps. Most vehicles constructed with soft exterior surfaces would not be able to comply with the Standard No. 215 requirements since by their very nature they would yield to the impact of the pendulum. The quality of soft face bumper systems which is not taken into account

by the Planes A and B prohibition is that such systems can be constructed in a manner that assures return of the system to its original contours following an impact. The NHTSA proposal would permit contact with the planes at limited force and pressure levels. These force and pressure limitations were intended to assure that the bumper system would yield in a collision to a degree that would minimize damage to the other vehicle's components.

Comments to the proposal to allow contact with Planes A and B focused on that provision's test conditions and its specification of pressure limitations. According to commenters, the prescribed instrumentation of Planes A and B is not practicable since it would be costly with allegedly unreliable test results.

British Leyland, Renault, and Peugeot wanted the agency to clarify the rule by specifying that no instrumentation is necessary on the pendulum where there is no contact during testing with Planes A and B. This fact should be clear based on prior interpretations given by the NHTSA. It has been stated many times in the past that a manufacturer need only exercise due care in assuring that his vehicle would comply with the requirement of a standard when tested by the NHTSA in the manner prescribed. The manufacturer need not conduct the tests prescribed in the standard in order to satisfy this duty. Depending upon the circumstances there may be other means by which he can certify his vehicles' compliance. In the case at issue, the instrumented pendulum would only serve to assure that impact with the planes would not exceed the stated maximum levels. If there is no contact with these planes then obviously the instrumentation would serve no purpose.

Volvo suggested that the provision permitting Planes A and B contact not be added to the standard until a measuring device can be better defined. American Motors, however, presented a suggestion that it contended would significantly simplify the test procedure without diminishing the desired level of vehicle protection. It suggested that the 200-psi limitation be deleted and that a force limitation of 2000 pounds on the combined surfaces of Planes A and B above the impact ridge and 2000 pounds total force on Plane A below the impact ridge be adopted.

American Motors stated that the 200-psi specification was unnecessary in light of the damage limitations contained in the standard.

The initial Part 581 damage criteria [proposed to go into effect September 1, 1976, or 1977, or 1978 (made effective by this notice for September 1, 1978)] presented some problems for Volkswagen, American Motors, Chrysler, Volvo, and Ford with respect to the areas in which damage would be permissible. The proposed section (S5.3.8) limits change to surface areas and safety components, but permits damage to the bumper face bar. The manufacturers argued that damage should also be permitted to cosmetic filler panels, bumper guards, nerf strips, license plate brackets, stone shields, and other components which are not specifically part of the vehicle body. The support for this position is that these components appear to be included in the proposal's description of items that would not be subject to damage limitation during the interim period.

The relevant language of S5.3.8 states that vehicles shall have no damage except to the bumper face bar and the components and associated fasteners that directly attach the bumper face bar to the chassis frame. The bumper face bar is defined as any component of the bumper system that contacts the impact ridge of the pendulum test device. Stone shields and cosmetic filler panels would not be excepted from the damage criteria unless they directly attach the bumper face bar to the chassis frame. Based upon the information currently before the agency, it has determined that neither stone shields nor filler panels are intended to serve such a function.

Bumper guards and nerf strips which are located in a position where they are contacted by the impact ridge of the test device would be considered as a bumper face bar with the lateral metal component (commonly known as a bumper) considered as a component that directly attaches the bumper face bar to the vehicle chassis frame. This reasoning would also apply to bumper systems that have a layer of plastic, rubber, or some other material covering the underlying load bearing structure. The covering material would be considered the bumper face bar and the underlying structure would be considered a component that attaches the face bar to the chassis frame.

Toyo Kogyo commented that the damage criteria contained in S5.3.8 would necessitate the addition of 13 pounds to the bumper which would change the emission rank of some cars and thereby increase their fuel consumption from 4 to 8 percent. The cost of counteracting the increased fuel consumption would, according to Toyo Kogyo, range from \$100 to \$200 per car.

The additional lead time allowed by the September 1, 1978 date for implementation of the initial damage criteria should enable Toyo Kogyo to concentrate its efforts on minimizing any increase in the weight of complying vehicles.

State Farm expressed concern over the application of the S5.3.8 damage criteria to vehicles with soft face systems. They asserted that allowing damage to the bumper face bar and associated components would, in the case of soft face bumper systems, permit damage to the entire front and rear end of the vehicle. This could occur since some soft-face construction utilizes a single large component in the front and rear of the vehicle that takes on the appearance of the vehicle body, but by definition would be the bumper face bar. It was State Farm's suggestion that damage be permitted only to those portions of the bumper face bar that actually come in contact with the impact ridge of the pendulum test device. This would in their opinion avoid the possibility of widespread damage to areas not actually contacted.

The NHTSA finds State Farm's concern unfounded. The 2000-pound total force limitation to the combined surfaces of Planes A and B of the pendulum test device will have the effect of preventing any substantial damage to the areas mentioned by State Farm. For this reason, the NHTSA denies State Farm's request to revise the language of S5.3.8.

Ford Motor Company criticized the provision prohibiting breakage or release of fasteners or joints (S5.3.9) as unreasonable. It asserted that efficient production requires keeping to a minimum the efforts involved in installing moldings and insignia. Of importance, in their opinion, is assuring that the moldings and insignia resist "popping" on rough roads and during minor parking lot impacts. However, they assert that the performance level that would be achieved by

S5.3.9 is unreasonably high since, in their view, moldings which pop off can be easily reinstalled with minimal cost and inconvenience to the car owner.

The NHTSA disagrees with Ford's argument. To allow the type of damage described by Ford would be partially to defeat the effectiveness of the standard. Ornaments that fall off and trim strips that pop off must be repaired if the value of the vehicle is to be maintained. The time and money invested by an individual who must obtain such a repair following a relatively minor collision can be avoided if the manufacturer is required to comply with the performance level of S5.3.9. The NHTSA disagrees with Ford's assessment of the time, cost, and effort involved in obtaining such repairs. The agency has therefore determined that to carry out the Congressional intent to reduce the cost of low-speed accidents, it must require ornaments and trim strips to be immune from damage under the test conditions of the standard.

There were numerous comments on the damageability requirements proposed to go into effect on September 1, 1979. Many of the manufacturers suggested a change in the maximum dent limitation (S5.3.11) and requested that a certain amount of bumper set be allowed. In its March 12 notice, the NHTSA proposed to limit damage to the bumper face bar to permanent dents no greater than $\frac{3}{8}$ inch from the original contour. The proposed $\frac{3}{8}$ -inch deviation was based on a Louis Harris & Associates survey of public reactions to bumper damage at various depths. This survey was commissioned by Houdaille Industries, Inc., a manufacturer of bumpers.

International Nickel Co. and Toyota requested that the provision be revised to allow a $\frac{3}{4}$ -inch deviation from the original bumper contour. In light of the results of the Harris survey, which indicated that consumers did not consider damage to be significant until the dents reached a depth of $\frac{1}{4}$ to $\frac{1}{2}$ inch, the NHTSA denies their request and adopts the proposed $\frac{3}{8}$ -inch limitation. To allow deviations to a depth of $\frac{3}{4}$ inch would be to disregard the results of the survey by permitting damage which would be considered significant by many consumers. This would undercut achievement of the purpose of the Part

581 bumper standard to reduce consumer loss of time and money.

Toyo Kogyo, American Motors, International Nickel, and Houdaille urged that the provision (S5.3.11) be amended to permit a certain degree of bumper set. It was pointed out that the impact to a bumper during testing can result in two types of contour change, dent and set. Bumper set is an overall movement or flattening of the bumper face bar which when minor is rarely detectable by the unaided human eye. Under the currently proposed provision the $\frac{3}{8}$ -inch deviation limitation would apply to both setting and denting, with the total of these two types of deviations limited to $\frac{3}{8}$ inch. Thus, the permissible degree of dent deviation would actually be less than $\frac{3}{8}$ inch. Compliance with such a requirement would, according to commenters, result in the production of heavier and more costly bumper systems.

Since the NHTSA has based its $\frac{3}{8}$ -inch deviation limitation on consumer reaction to a dent of that depth, it agrees with commenters that a certain degree of bumper set could be permitted in addition to dent without visibly altering the level of allowable bumper damage. Minor set is generally imperceptible. Thus, allowing it to occur during impact tests would not significantly reduce the level of performance currently assured in the proposed provision. The NHTSA hereby amends Part 581 to permit $\frac{3}{4}$ inch of bumper set in addition to dents of $\frac{3}{8}$ inch.

Consumers Union asserted that the NHTSA should not require near-zero level of damage on all cars since such a regulation would prevent manufacturers from offering as an option cars with cheap, lightweight, expendable bumpers which meet the standard's other requirements. The NHTSA finds no merit in this suggestion and for the following reasons denies the request. First of all, to make compliance with the "no damage" provisions optional would be to disregard the mandate of Congress in the Cost Savings Act, which instructs the agency to promulgate a standard that will reduce consumer costs occasioned by bumper damage. Second, cars produced with lower performance bumpers would be less expensive than those meeting the Part 581 criteria. They might, therefore, seem more appealing to consumers who are unaware

of the costly damage that might be incurred during low-speed collisions. The purpose of Title I of the Cost Savings Act is to protect consumers from such an eventuality. Third, mass production is the factor that will keep manufacturing costs at a low level. If only some vehicles are constructed with damage-resistant bumpers, the cost of those vehicles is likely to be higher than necessary because of this factor.

Nationwide Mutual Insurance Co. and the National Association of Independent Insurers expressed concern that the $\frac{3}{8}$ -inch deviation limitation was too lenient. Nationwide felt that the $\frac{3}{8}$ -inch deviation constituted a relaxation of the NHTSA's previous position that only a dimple should be allowed to the bumper. The NHTSA has concluded, based on the Harris survey, that a dent $\frac{3}{8}$ inch in depth would be inconsequential to most car owners. Prescribing such a deviation as the maximum allowable in a 5-mph barrier or pendulum impact is, therefore, in keeping with the goal of reducing economic loss occasioned by low-speed collisions.

The National Association of Independent Insurers suggested that the $\frac{3}{8}$ -inch deviation be upgraded to require that the dent extend over a minimum area in a dishing fashion which would be less noticeable. This suggestion is rejected since the $\frac{3}{8}$ -inch provision has been fully supported as providing a damage level that fulfills the goals of Title I. In addition, prescribing a dishing effect as a necessary element for compliance would not take into account the various types of impacts to which a vehicle is subject.

State Farm urged that the prohibition against separations of surface materials, paint, polymeric coatings, or other materials from the surface to which they are bonded be extended to cover the bumper face bar during barrier impact tests. Under the current proposal these surface damage limitations would apply only to parts of the vehicle other than the bumper face bar. State Farm asserted that the limitation of application of the no-surface-damage requirements to vehicle surfaces other than the bumper face bar was intended to accommodate the pendulum impact. They therefore see no justification for applying the same limitation during barrier impact testing.

The NHTSA denies State Farm's request. While both barrier and pendulum impacts can cause some chipping or flaking of chrome or soft-face material (depending upon the type of system being tested), such damage is insignificant. Application of a no-surface-damage requirement to the bumper face bar would probably result in manufacturers having to upgrade their plating process or use more sophisticated covering materials to assure compliance. This could result in significant cost increases with little, if any, increase in benefits.

Both State Farm and British Leyland requested that S7.1.1 of Part 581 be clarified to indicate that the pendulum impacts from 16 and 20 inches are intended to be inclusive. Since compliance with the pendulum impact requirements at any height between 16 and 20 inches would necessitate meeting the damage criteria at heights infinitesimally close to 16 and 20 inches, the clarification requested by these commenters is insubstantial. The NHTSA, however, amends S7.1.1 to include the 16- and 20-inch heights as subject to the damage criteria, since some persons apparently considered it unclear.

Chrysler requested a modification of the Part 581 longitudinal pendulum impact test to specify that the required pendulum impacts be at least 12 inches apart laterally and 1 inch apart vertically from any prior impact. The request is denied, since such a modification would prohibit more than one hit in the same area of the bumper. Under the current Part 581 proposal, an impact within 12 inches laterally must be separated from any prior impact by 2 inches, vertically. Based upon available accident data, the NHTSA has concluded that a vehicle will be involved in an average of approximately 2 to 3 bumper collisions at speeds of 5 mph or less in its 10-year life. On an individual vehicle basis, the distribution or the area of the bumper affected by these impacts cannot be predicted. In order to assure a performance level that corresponds with real-world conditions, the NHTSA has determined that each bumper must be capable of meeting the prescribed damage criteria when subjected to more than one pendulum impact in the same area of the bumper.

A substantial number of comments were received from individuals concerned that the Part

581 bumper standard might in some way limit the recycling of bumpers in the aftermarket. This concern is unfounded, since the requirements contained in Part 581 ensure that a wide variety of materials can continue to be used in bumper systems. The provisions in no way restrict the use of metals in bumper systems.

Chrysler argued that the pendulum test device should be used only as a means of assuring uniform bumper height. In its opinion, the pendulum impact test does not constitute an appropriate means of evaluating bumper damageability since the pendulum is rigid, heavy, and aggressive.

The NHTSA does not find Chrysler's argument meritorious. To delete the pendulum impact test as a means of establishing bumper damageability resistance would be to lower considerably the proposed level of performance currently contained in Part 581. The pendulum impact requirements assure that a vehicle is capable of involvement in various types of low-speed collisions without sustaining significant damage. They impose localized stresses at various points on the bumper face bar while the barrier impacts only establish a vehicle's overall ability to withstand impacts at specified energy levels, assuring

the basic strength of the front and rear bumper. In order to satisfy its Congressional mandate by reducing the economic loss occasioned by low-speed collision damage, the NHTSA has concluded that the Part 581 bumper standard must prescribe test requirements that measure a vehicle's damageability characteristics in both barrier and pendulum-type stress situations.

In light of the foregoing, Title 49, Code of Federal Regulations, is amended . . .

1. Federal Motor Vehicle Safety Standard No. 215, *Exterior Protection* (49 CFR 571.215), is revoked.

2. A new Part 581, *Bumper Standard*, is added to read as set forth below.

Effective date: September 1, 1978.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); sec. 102, Pub. L. 92-513, 86 Stat. 947 (15 U.S.C. 1912) delegation of authority at 49 CFR 1.51.)

Issued on February 27, 1976.

James B. Gregory,
Administrator, National Highway
Traffic Safety Administration

41 F.R. 9346
March 4, 1976

PREAMBLE TO AMENDMENT TO PART 581—BUMPER STANDARD

(Docket No. 74-11; Notice 17; Docket No. 73-19; Notice 14)

This notice responds to petitions for reconsideration of the March 4, 1976, Federal Register notice (41 FR 9346) establishing a new bumper standard that limits damage to vehicle bumpers and other vehicle surfaces in low-speed crashes.

Effective Date: September 1, 1978.

Address: Petitions should be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

For Further Information Contact:

Tim Hoyt, Office of Crashworthiness,
Motor Vehicle Programs,
National Highway Traffic Safety Administration,
Washington, D.C. 20590 (202-426-2264).

Supplementary Information:

The standard, 49 CFR Part 581, issued under the authority of Title I of the Motor Vehicle Information and Cost Savings Act, Public Law 92-513, 15 U.S.C. 1901-1991, limits damage to non-safety related components and vehicle surfaces and incorporates the safety-related damage criteria of the current Standard No. 215, *Exterior Protection* (49 CFR Part 571.215). Under the new standard, all vehicles manufactured on or after September 1, 1978, must be capable of undergoing prescribed pendulum and barrier crash tests while experiencing damage only to the vehicle bumper and those components that attach it to the vehicle frame. Vehicles manufactured on or after September 1, 1979, must be capable of undergoing the same tests while experiencing no damage to vehicle exterior surfaces except on the bumper, where dents not exceeding $\frac{3}{8}$ inch and set not exceeding $\frac{3}{4}$ inch may occur.

Petitions for reconsideration were received from General Motors (GM), Ford, Chrysler, American Motors Corporation (AMC), Gulf &

Western, Nissan, and Leyland Cars. The issues raised by petitioners focused primarily on Part 581's cost-benefit basis, its leadtime, and its damage criteria.

GM, Ford, Chrysler, AMC, Nissan, and Gulf & Western stated that the National Highway Traffic Safety Administration (NHTSA) failed to present evidence that Part 581 would be cost beneficial. Ford stated that the record supporting Part 581 gives no assurance that the public will realize incremental savings once the standard is implemented. Chrysler, Nissan, and Gulf & Western cited cost and weight increases which they alleged would impose additional burdens on car owners over and above those presently experienced. AMC complained that the provision for escalating the bumper requirements after one year would result in costly and complex bumper designs, since such a schedule would prohibit the optimization of bumper systems.

Petitioners requested that the agency demonstrate that the requirements of Part 581 will provide cost savings greater than those currently provided by Standard No. 215, *Exterior Protection*. It was suggested by GM, AMC, and Ford that the agency undertake field studies to gather data to support the Part 581 standard. Several manufacturers suggested that implementation of Part 581 be postponed until such time as a field study is completed.

Petitioners' arguments have been raised in past comments to Federal Register notices proposing a Part 581 bumper standard. The NHTSA found them unpersuasive then and hereby rejects them once again. The NHTSA and Houdaille Industries conducted cost benefit studies on compliance with the Part 581 bumper requirements. The studies indicate that bumper systems using current technology and designed to meet the standard's requirements will provide a favorable

cost-benefit ratio. Petitioners have not presented evidence that effectively disputes the conclusions reached in these studies.

Conducting field studies as a means of gathering evidence to support implementation of the Part 581 standard is unrealistic and would not demonstrate as accurately as the Houdaille and NHTSA studies the positive cost-saving potential of the standard. Many manufacturers are continuing to comply with the current Standard 215 bumper requirements by means of inefficient, unoptimized bumpers. Data gathered on these systems thus would not indicate the full possibilities of bumpers specifically designed to meet the Part 581 requirements in an efficient manner. Once manufacturers start utilizing the technology and materials available to them the full benefits of the Part 581 bumper standard can be realized. Until such time, however, manufacturers have it within their power to cause field study results to be misleading and unrepresentative of the potential of Part 581.

The NHTSA has ample evidence in the record that manufacturers are capable of meeting the requirements of Part 581. It also has evidence that compliance can be achieved in a cost-efficient manner. There has been no evidence presented by any of the petitioners that the standard would have a negative cost-benefit impact if met in the ways outlined by Houdaille and the NHTSA in their studies. The agency therefore rejects the cost-benefit objections raised by petitioners.

AMC requested additional leadtime to meet the requirements of Part 581. It contended that it needs 36 months' leadtime to comply with Part 581. It asked that the initial effective date of the standard be delayed until September 1, 1979.

The NHTSA finds AMC's request without merit. The 30-month leadtime for the initial requirements and the 42-month leadtime for the final requirements is considered adequate for compliance. No other manufacturers have expressed concern over attaining the level of performance prescribed for 1978, and evidence in the record indicates that most vehicles already come close to satisfying the specified damage criteria. The request of AMC is therefore denied.

General Motors objected in its petition to the prescribed escalation of the bumper requirements

for September 1, 1979, only 1 year after the standard's initial effective date. It stated that compliance with two sets of bumper requirements within such short period of time would result in unrecoverable costs relating to research, design, development, and tooling, and would inhibit the feasibility of optimizing its bumper systems.

Ford Motor Company stated that it plans to redesign its passenger cars for 1981 due to the requirements of the Energy Policy and Conservation Act (Pub. L. 94-163) and associated legislation. Ford explained that compliance with Part 581 will entail some redesign. It therefore requested that the bumper standard's effective date be delayed until September 1, 1980, so that these necessary redesigning efforts can be accomplished simultaneously.

The agency has found both General Motors' and Ford's requests persuasive. It has therefore issued a notice proposing to delay for 1 year the implementation of the second phase of bumper requirements from September 1, 1979, until September 1, 1980. This action does not conform exactly to Ford's request. However, the NHTSA does not know of any vehicles that would require major design changes until implementation of the more stringent second phase requirements.

Filler panels and stone shields were identified in the March 4, 1976, final rule as exterior vehicle surfaces that must experience no damage as a result of the prescribed test impacts. GM, Chrysler, and AMC objected to this interpretation of the level of damage resistibility filler panels and stone shields must achieve. GM contended that these components are part of the bumper system and provide the transition between the bumper face bar and body panels. It stated that bumper stroke causes unavoidable surface scratches, abrasions, and displacements, which could be eliminated only by using expensive materials and mounting techniques. Chrysler pointed out that filler panels are designed to flex during bumper impacts and may not return to exactly their original contour. According to AMC, however, once a deformed bumper is repaired following an impact, the flexible filler panel will return to its original contour. All three manufacturers requested that filler panels be permitted to sustain some degree of damage during testing.

The agency has reexamined the role of filler panels and stone shields in the bumper system and finds that although they do not actually hold the bumper to the vehicle frame, they are cosmetic components that are part of the entire system that performs the task of attaching the bumper to the frame of the car.

The NHTSA has concluded that permitting damage to filler panels and stone shields will not significantly degrade the level of performance required for vehicles manufactured after September 1, 1978. The flexibility of the filler panel and stone shield material enables it to withstand deforming impacts without permanently losing its shape, but as long as the bumper and components attaching it to the vehicle frame are permitted to sustain damage as a result of impacts, the filler panel and stone shield may likewise sustain some degree of damage. Since these components are less visible than the bumper itself, the small amount of damage that they will incur will normally not be as significant as that allowed to the bumper. Therefore, filler panels and stone shields on vehicles manufactured from September 1, 1978, to August 31, 1979, will be permitted to sustain damage during the prescribed test impacts. This, in essence, grants the requests of petitioners. The agency will address in an upcoming notice the application of damage criteria to stone shields and filler panels on vehicles manufactured after September 1, 1979.

Ford and Chrysler charged that the Part 581 damage criteria are impracticable and lacking in objectivity. Specifically, they objected to the criteria that allow no separations or deviations, and require certain systems to operate in a normal manner. According to petitioners, these criteria are not objective since the requirements of no separation and no deviations can be interpreted as meaning that even the most microscopic deviations and separations are prohibited, or alternatively that only those deviations that are readily apparent are prohibited. With regard to the requirement that certain systems operate in a normal manner, petitioners stated that the meaning of "normal" is unclear and can be interpreted differently by different people. Ford and Chrysler expressed concern that the agency will

interpret the meaning of these damage criteria in a manner conflicting with their interpretation. To resolve the situation to which it is objecting, Chrysler suggested that the requirements be revised to allow minimal and inconsequential deviations, while Ford suggested that the agency withdraw S5.3.2 and S5.3.5 and parts of S5.3.3, S5.3.8, S5.3.10, and S5.3.11 pending development of objective criteria to enable manufacturers to predict accurately whether their vehicles will comply.

The agency understands the petitioners' concerns, but finds that a simple interpretation of the cited requirements is adequate to satisfy their objections. The damage criteria allowing no deviations and no separations are not intended to apply to microscopic changes in the vehicle following test impacts. The types of deviations and separations addressed by Part 581 are those that are perceptible without the use of sophisticated magnifying or measuring equipment. What is required is that the vehicle not reflect any normally observable changes in the stated areas following the prescribed test procedure. Damage that is only identifiable by use of microscopically-oriented equipment would not be considered as prohibited under Part 581.

With regard to the requirement that a vehicle's hood, trunk, and doors operate in the normal manner, the standard is simply providing that these systems continue to operate following the test impacts in the same manner as they did before the impacts. This requirement has been a part of Standard No. 215, *Exterior Protection*, since its implementation on September 1, 1972. No compliance controversies have ever arisen concerning it.

Leyland Cars and AMC requested that the requirements of S5.3.11, allowing no more than $\frac{3}{4}$ -inch set and $\frac{3}{8}$ -inch dent to the bumper face bar, be made applicable to the component that backs up the bumper face bar. Leyland Cars explained that some of its bumpers are covered by a rubber or plastic molding which, under Part 581, would be considered as the bumper face bar. It requested that the component over which the molding is placed be permitted to sustain the same degree of set allowed for the bumper face bar. AMC asked that the component underly-

ing the molding be permitted to experience dents up to $\frac{3}{8}$ -inch as is the bumper face bar.

The NHTSA finds petitioners' concerns unfounded. The prohibition against set and denting applies to vehicle exterior surfaces. From the description of the component supplied by Ford and Chrysler it appears that it is completely covered by the molding and is not an exterior surface area of the vehicle. Therefore, it may experience damage during test impacts. The molding enveloping the reinforcement would represent the exterior surface that is subject to the requirements of S5.3.11.

Nissan and Gulf & Western objected to the prescribed limitations on set and denting contained in S5.3.11. Nissan requested that the damage criteria be revised to allow $\frac{1}{2}$ -inch dent and 1-inch set, instead of the currently required $\frac{3}{8}$ -inch dent and $\frac{3}{4}$ -inch set. It was Nissan's contention that such a revision would cause only a slight change in the appearance of a damaged vehicle, while enabling a considerable change in a vehicle's cost and weight. Gulf & Western alleged that there was no economic justification for the $\frac{3}{8}$ -inch dent and $\frac{3}{4}$ -inch set requirements since they are based solely upon a public opinion poll. It requested that the Part 581 requirements not be implemented until an economic justification is presented.

The NHTSA finds both Nissan's and Gulf & Western's requests lacking in merit. A survey conducted by Louis Harris & Associates of public reaction to various degrees of bumper damage showed that a significant number of people consider $\frac{1}{2}$ -inch dents to be damage they would repair. Based upon this information and cost and weight data contained in the various studies upon which the agency relied in the formulation of the standard, it has been determined that the amendment requested by Nissan would adversely affect the results to be achieved by implementation of the Part 581 bumper standard. The results of the Harris survey have definite economic significance in that those individuals indicating that a certain degree of damage was significant enough that they would have it repaired were providing the pollster with cost data. Damage that is repaired will have a financial impact on the car owner. By the same token,

damage that is detectable and thereby have an economic impact on the car owner. These cost factors were all considered in deciding on the $\frac{3}{8}$ - and $\frac{3}{4}$ -inch damage limitations. For these reasons, the requests of Nissan and Gulf & Western are denied.

Chrysler objected to the procedure prescribed for measuring the depth of bumper dents (S5.3.11(b)), charging that it is unreasonable, inaccurate, and lacks objectivity. Chrysler alleged that the end points of the straight line described in the test procedure for connecting the bumper contours adjoining the contact area are locations that are subjective on bumper face bars with compound curvature. It also charged that the specified measurement method lacks objectivity and can be used only for determining the depth of dents in flat surfaces. Chrysler requested that the agency clarify the provision.

Although the objections raised by Chrysler illustrate that some configurations are more difficult to measure than others, it is the agency's judgement that the method described in S5.3.11(b) is valid and still the most feasible means of determining the extent of damage. Location of the end points of the straight line used to measure the depth of bumper dents does not, in the opinion of the NHTSA, pose a problem. In order to establish the exact location of the end points, the manufacturer may either paint or chalk the pendulum test device. In this way, the pendulum will leave a mark on the precise area of contact.

With regard to Chrysler's objections concerning the measurement of dents, it should be noted that the straight line measurement technique is not necessarily a test procedure. Rather, the language specifying that a deviation from original contour not exceed $\frac{3}{8}$ -inch when measured from a straight line connecting the bumper contour adjoining the contact area should be considered a definition of a dent. Deformations outside the contact area on the bumper surface, such as recessions of a larger area of the bumper, are defined as set.

The agency realizes that the measurement of dent and set on some bumpers with complex curvature may not be a simple procedure. In such cases, the testers must use measurement pro-

cedures that will enable them to accurately measure the degree of dent the bumper has incurred. In situations involving a concave face bar, a reference line can be established by placing a straight line across the area of contact prior to impact. After completion of the actual impact the change in bumper contour can be measured from the previously established reference line. In situations involving a convex face bar, or more complex surfaces, it may be necessary for the manufacturer to remove the bumper following impact in order to compare it with an unimpacted bumper, or to make a cast of the preimpact bumper for comparison with the bumper for comparison with the bumper following the prescribed testing.

Chrysler also requested that S5.3.11 be amended to specify that bumper set be measured relative to the vehicle frame in perpendicular, parallel, and vertical directions with respect to the vehicle's longitudinal centerline. It stated that such a revision would reduce the task of measuring permanent set to a reasonable level.

The NHTSA denies this request since Chrysler has presented no information indicating that the currently prescribed measurement procedure is unfeasible. The agency knows of no reason why reference lines relative to the vehicle frame cannot be established from which bumper set can be measured. To adopt Chrysler's suggested method for measurement would unduly complicate the procedure since determination of the vehicle longitudinal centerline is complex.

GM charged that the NHTSA's definition of bumper face bar may include license plate brackets that are attached to the vehicle bumper, since these components may contact the impact ridge of the pendulum test device. If identified as the bumper face bar, these license plate brackets would be required to meet the level of performance prescribed for bumpers. According to GM, such a result would be extremely costly. License plate brackets capable of complying with the bumper damage criteria would be expensive to produce as well as to replace. This, in GM's opinion, would have a negative cost-benefit impact.

While the NHTSA agrees that license plate brackets should not be required to meet the dam-

age criteria of the bumper face, the NHTSA believes that it is good design practice to locate license plates in an area other than the bumper face. However, recognizing the limited space available on the front of some cars for license plate placement, the NHTSA is reluctantly willing to grant GM's petition on this point. The agency will, in the future, review industry practice on the placement of license plates on new automobiles in an effort to determine if future rulemaking on this matter would be desirable.

AMC requested in its petition that the NHTSA amend the requirements limiting the total force on planes A and B to 2,000 pounds (S5.3.7) to permit a force of 2,000 pounds on plane A below the impact ridge and a force of 2,000 pounds on the combined surfaces of planes A and B above the impact ridge. AMC based its request on the premise that the current requirement allows the full 2,000-pound force to be exerted either above or below the impact ridge of the test device. It pointed out that the NHTSA stated in an earlier notice that the 2,000-pound limit would prevent any substantial damage to the vehicle. Based upon this, AMC argued that allowing 2,000 pounds of force both above and below the impact ridge would not expose those surface areas to any greater force than would be allowed under the current requirements.

The NHTSA disagrees with AMC's contention. The force limitation contained in Part 581 is intended to assure that the primary force of the impact is directed at the bumper face bar. Although all 2,000 pounds of allowable force could be directed to the area either above or below the impact ridge, this total amount of force would not be a significant damage factor. However, if the areas covered by planes A and B were allowed to sustain a total force of 4,000 pounds, the focus of primary force on the bumper face bar would not be assured and the type of aggressive bumper system Part 581 is designed to prevent could be utilized. AMC's request is therefore denied.

AMC requested that Part 581 be amended to include a provision appearing in the January 2, 1975, proposal (40 FR 10) that stated a vehicle need not meet further requirements after having

been subjected to either the longitudinal pendulum impacts followed by the barrier impacts, or the corner pendulum impacts.

The agency has stated in past notices that a vehicle will be involved in an average of three low-speed collisions in its 10-year life. There is no way to predict which portion of the bumper will be affected in these impacts. Therefore, it was decided that vehicles should be required to meet the prescribed damage criteria when subjected to the entire series of test impacts. To provide otherwise would be to establish a level of performance lower than necessary to protect a vehicle from the full range of potentially damaging impacts it is likely to incur during its on-road life. It was for this reason that the provision appearing in the January 2, 1975, proposal was not adopted. It is for this same reason that the agency denies AMC's request.

The text of the Title I bumper standard has in previous notices and the March 4, 1976, final rule been published in the format of a motor vehicle safety standard. Since the bumper standard is actually an entire part within Chapter V

of the Code of Federal Regulations, the format must be changed in order that it may be properly codified. The content of the standard will remain the same. This notice, however, revises the numbering system so that it conforms to the Code of Federal Regulations format.

The principal authors of this notice are Guy Hunter, Office of Crashworthiness, and Karen Dyson, Office of Chief Counsel.

In light of the foregoing, 49 CFR Part 581, is amended and recodified. . . .

Effective date: September 1, 1978.

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); sec. 102, Pub. L. 92-513, 86 Stat. 947 (15 U.S.C. 1912); delegation of authority at 49 CFR 1.50.)

Issued on May 4, 1977.

Joan Claybrook
Administrator

42 F.R. 24056
May 12, 1977

PREAMBLE TO AMENDMENT TO PART 581—BUMPER STANDARD**(Docket No. 73-19; Notice 19 & Docket No. 74-11; Notice 22)**

This notice corrects an inadvertent error in the notice that changed the format of Part 581, *Bumper Standard*, so that its numbering system conformed to the Code of Federal Regulations format (42 FR 24056; May 12, 1977). In that notice, the new numbering was not totally incorporated into the body of the regulation.

For further information contact:

Mr. Tim Hoyt
Office of Crashworthiness
Motor Vehicle Programs
National Highway Traffic Safety
Administration
Washington, D.C. 20590
202-426-2264

Supplemental information: On May 12, 1977, the National Highway Traffic Safety Administration published a Federal Register notice (42 FR 24056; FR Doc. 77-13235) responding to petitions for reconsideration of the March 4, 1976, notice (41 FR 9346) establishing a new bumper standard. The May notice also changed the format of Part 581. The text of the bumper standard was previously published in the format of a motor vehicle safety standard. Since the standard is actually an entire part within Chap-

ter V of the Code of Federal Regulations its numbering system was revised in order that it could be properly codified.

When Part 581 was published with its revised format, only the section headings were properly renumbered. The texts of the various sections were inadvertently left unchanged. This notice revises the section references in the body of the regulation to conform to the new format.

The principal author of this notice is Karen Dyson, Office of Chief Counsel.

In accordance with the foregoing, changes should be made to 49 CFR Part 581, *Bumper Standard*. . . .

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 192, 1407); sec. 102, Pub. L. 92-513, 86 Stat. 947 (15 U.S.C. 1912); delegations of authority at 49 CFR 1.50 and 49 CFR 501.8.)

Issued on July 26, 1977.

Robert L. Carter
Associate Administrator
Motor Vehicle Programs

42 F.R. 38909
August 1, 1977

PREAMBLE TO PART 581—BUMPER STANDARD

(Docket No. 73-19; Notice 24)

This notice responds to a request from Ford Motor Company for further interpretation of the bumper damageability requirements of Part 581, *Bumper Standard*, and announces the photographic procedure NHTSA will use as an aid in determining whether damage to filler panels and stone shields (shielding panels) is normally observable for purposes of compliance with the standard. This interpretation assists manufacturers in ascertaining whether contemplated bumper designs will provide a level of performance consistent with the requirements of Part 581. This notice also corrects an inadvertent error in the previously announced effective dates for Phase I of the bumper requirements.

Date: This interpretation and the correction to Part 581 are effective immediately.

For further information contact:

Mr. Richard Hipolit, Office of Chief Counsel,
400 Seventh Street, S.W., Washington, D.C.
20590 (202-426-9512)

Supplementary information: NHTSA has established, through issuance of Part 581, Bumper Standard (49 CFR Part 581), requirements for the impact resistance of vehicles in low speed collisions. The effective dates of Part 581 are September 1, 1978, for components other than the bumper face bar and certain associated fasteners (Phase I), and September 1, 1979 for all vehicle components (Phase II). On May 15, 1978, the agency published a notice (43 FR 20804) summarizing its interpretation of various aspects of the Part 581 damage resistance requirements as they relate to vehicle exterior surfaces. Ford Motor Company has asked for additional clarification of the requirement of paragraphs 581.5(c)(10) and (11) of the standard, in a June 22, 1978, request for interpretation that has been placed in the public docket.

APPLICATION OF THE DAMAGE CRITERIA TO BUMPER FACE BARS AND ATTACHED COMPONENTS

The Phase II requirements prohibit permanent deviations from the original contours of vehicle exterior surfaces following pendulum and barrier impacts. An exception is made for the "bumper face bar," whose surface is permitted $\frac{3}{4}$ -inch deviation from its original contour and position relative to the vehicle frame (set) and a $\frac{3}{8}$ -inch deviation from its original contour on areas of contact with the barrier face or the impact ridge of the pendulum test device (dent) (§ 581.(c)(11)). Bumper face bar is defined in § 581.4 as "any component of the bumper system that contacts the impact ridge of the pendulum test device." NHTSA has stated that this definition includes components of a multipiece bumper which are connected as part of the same load bearing structure to a bumper system component which is contacted either by the pendulum test device or the test barrier (43 F.R. 20804; May 15, 1978).

Ford has inquired as to the applicability of this definition of bumper face bar to a variety of components such as directional signals and shielding panels, which may be mounted to a load bearing structure while themselves performing no structural function. Components which do not perform a load bearing function are not necessarily components of the bumper system (and potentially bumper face bar) solely as the result of their incidental mounting on or near a load bearing structure of the bumper system. Components must be examined on a case-by-case basis to determine whether they constitute components of the bumper system.

The agency stated in a previous notice that shielding panels are considered a component of

the bumper system and thus will qualify as bumper face bar if contacted in testing (43 F.R. 20804; May 15, 1978). The same would be true of other cosmetic components directly associated with the bumper system's function such as manufacturing cut-out patches and tape strips the primary function of which is to hide protrusions, primary function of which is to hide protrusions, fasteners, or other unsightly aspects of the

Illumination devices, e.g., fog lamps and directional signals, are not associated with the bumper system's function and could not qualify as components of the bumper system, even if contacted by the pendulum test device or barrier.

Still other components could be considered components of the bumper system, depending on their application in a particular vehicle design. For example, a grille, which would generally be associated with the vehicle body, could perform a protective function as a component of a bumper system in a soft-face configuration, and could therefore qualify as a component of the bumper system.

The agency recognizes that components mounted to a bumper face bar, but not themselves considered face bar because they are not part of the bumper system or are not impacted in testing, will necessarily move with the set of the bumper face bar, although they do not qualify for the permissible $\frac{3}{4}$ -inch set allowance of (c) (11) (i). However, the stricter damage limitations of paragraph 581.5(c)(10), applicable to such components, are actually limited to "normally observable changes in the started area following the prescribed test procedures" (42 F.R. 24058; May 12, 1977). "[M]ovement of small patches covering manufacturing process cut-outs on the face bar" and movement of shielding panels with the set of the bumper are not considered normally observable (43 F.R. 20804; May 15, 1978). Similarly, non-bumper (e.g., fog-lamps) and other bumper system components (e.g., tape strips), attached to or built into a bumper face bar but not contactable by the test device, would not be considered to have normally observable damage when they simply move with

the set of the face bar. Such movement would, however, be normally observable if the function of the mounted component were impaired, e.g., by misalignment, in the case of a fog lamp beam, to the extent that it would not be adjustable to its normal aim.

The thin, polymeric tape strips described above typically are adhesively bonded to the surface areas of the bumper face bar. The impact of the pendulum test device or test barrier with the bumper face bar may cause distortions on portions of the face bar not directly impacted during testing and cause localized separation on these tape strips from the face bar surface, in the form of wrinkling or bubbling.

The agency had previously stated that, "while both barrier and pendulum impacts can cause some chipping or flaking of chrome or soft-face material (depending on the type of system being tested), such damage is significant" (41 F.R. 9346; March 4, 1976). This reasoning also governs minor damage to tape strips, such as wrinkling or bubbling, so long as the strips are contactable and thus qualify as bumper face bar. This interpretation would apply equally whether the damage happened to fall at the area of impact or elsewhere on the face bar.

Any component of the bumper system which can be contacted by the impact ridge of the pendulum test device in any permissible pendulum stroke is considered bumper face bar for testing of that bumper system, whether or not it was actually contacted in a particular test sequence. Further, the interpretation concerning non-contactable but load bearing components of multipiece bumpers discussed above, although originally announced in the context of metal bumpers (43 F.R. 20804; May 15, 1978), would also govern a multipiece bumper assembly equipped with plastic or rubber bumper guards or nerf strips. Thus, all load bearing components of the bumper assembly, whether plastic, rubber, or metal would be considered bumper face bar and be entitled to a $\frac{3}{4}$ -inch set if they are connected as a part of the same load bearing structure.

MEASUREMENT OF DAMAGE TO THE BUMPER FACE BAR

Paragraph 581.5(c)(11) provides:

Thirty minutes after completion of each pendulum and barrier impact test, the bumper face bar shall have—

(i) No permanent deviation greater than $\frac{3}{4}$ inch from its original contour and position relative to the vehicle frame; and

(ii) No permanent deviation greater than $\frac{3}{8}$ inch from its original contour on areas of contact with the barrier face or the impact ridge of the pendulum test device measured from a straight line connecting the bumper contours adjoining any such contact area.

Ford has inquired as to the measurement techniques the agency will use in determining compliance with these damage limitations. NHTSA has previously recognized that “the measurement of dent and set on some bumpers with complex curvature may not be a simple procedure” (42 F.R. 24056; May 12, 1977). In many cases there may be more than one procedure by which damage can be accurately measured. Innovations in measurement techniques may be needed as new bumper designs are developed. Therefore, while the agency can express the basic measurement geometry (which appears to be Ford’s basic concern) that establish compliance with the damage limits, it cannot specify a particular method to be used in measuring those distances in all cases.

Ford requested resolution of the inadvertent inconsistency between agency statements in the May 1978 interpretation that “the two types of deviation are additive in an area of contact with the barrier face or impact ridge” but that “the localized deviation permitted by paragraph (ii) is measured taking any contour in the area of impact and measuring its movement from its location prior-to-impact to post-impact.” The first statement accurately represents that the deviations are additive in the area of contact with the barrier or pendulum. The second statement failed to make the different and intended point that the contour of the contact area is measured from the contour previous to contact, but only after movement of the surface position and contour relative to the vehicle frame attributable to

set has been subtracted. It should be noted that contour change attributable to set must result from a generalized flattening of the bumper surface outside the area of contact. Otherwise the concept of dent would be indistinguishable from contour set.

The agency rejects Ford’s suggestion to merely measure the contour in the contact area in relation to the surrounding contour following impact. The best example of why the original contour must serve as the baseline is the case in which the contact area consisted of a $\frac{3}{8}$ -inch protrusion from the surrounding area prior to impact and a $\frac{3}{8}$ -inch depression in relationship to the surrounding contour following impact. The resulting dent would actually be $\frac{3}{4}$ -inch deep.

Ford further recommended that all dent measurements be made in vertical sections of the plane of impact which produced the dent. Recognizing the need for flexibility in the measurement of complex bumper configurations, Ford has withdrawn this portion of its request for interpretation.

Ford has questioned the portion of NHTSA’s previous interpretation (43 F.R. 20804; May 15, 1978) which stated that dent may be measured “along any dimension, i.e., width, length, depth,” from any line connecting the adjacent bumper contours. The agency has decided that the $\frac{3}{8}$ -inch dent limitation of § 581.5(c)(11)(ii) should presently be limited to depth measurements only. Development of the Phase II face-bar contour requirements and studies which formed the basis for the $\frac{3}{8}$ -inch dent requirements during the rulemaking proceeding focused primarily on limitation of the depth of deviations. A $\frac{3}{8}$ -inch dent limitation measured in any direction might, at this time, impose an unanticipated burden in some cases and perhaps restrict the flexibility of manufacturers in selecting bumper systems for different model sizes which provide a suitable balance among the interrelated considerations of damage resistance, weight reduction, and cost. Should future testing and bumper design developments indicate that further face-bar dent limitations would be beneficial, such a requirement will be the subject of a future rulemaking notice.

Finally, Ford has asked whether there can be more than one contact area for purposes of measuring damage resulting from a particular impact. It is clear that multiple areas of contact between the bumper face bar and the impact ridge or test barrier may exist, thus creating multiple areas in which dent may occur. Given the complexity of some bumper designs, it would be unrealistic and impractical to require that all damage incurred in an impact be combined for measurement purposes. Deviations caused by impact at non-contiguous locations on the bumper system will be treated as separate contact areas, and damage in each of these areas will be measured separately, without reference to any other area of contact.

PHOTOGRAPHIC PROCEDURES TO AID IN EVALUATING DAMAGE TO SHIELDING PANELS

NHTSA's previous interpretation of the Part 581 requirements (43 F.R. 20804; May 15, 1978) addressed the problem of judging damage to vehicle shielding panels for purposes of determining compliance with paragraph 581.5(c)(10). That provision addresses all exterior surfaces other than bumper face bar and prohibits permanent deviation from original contours or separation of materials from the surface to which they are bonded. The interpretation reiterated that the agency does not consider damage to shielding components to be in violation of the standard if that damage is not "normally observable." In the case of shielding panels, damage not visible in good quality, photographic prints of the suspect area would not be considered by the agency to be "normally observable." The notice indicated that the Office of Vehicle Safety Compliance (OVSC), formerly the Office of Standards Enforcement, would establish standard procedures by which NHTSA would take its evaluative photographs.

While NHTSA originally stated that 8 by 10 inch photographic prints would be employed, the agency has concluded that the use of contact prints of that size may present practical difficulties due to the limited availability and unwieldiness of large cameras. Further study of

existing photographs indicates that 4 by 5 inch contact prints are adequate for the agency's testing.

Upon completion of impact tests in accordance with the test procedures of paragraph 581.7, OVSC photographs shielding panel areas that may have experienced permanent deviation or separation of materials.

View Camera. OVSC uses a standard 4 by 5 inch View Camera with focal length of 127 mm, a maximum aperture of f/4.7, a coated lens, and available shutter speeds of 1 second to 1/400 second.

Film. OVSC uses type 52 Pola Pan 4 by 5 inch film for Polaroid prints.

Illumination. OVSC takes the photographs indoors using the following illumination procedures: (1) illuminating the area to be photographed with crosslighting using two 1,000-watt photofloods lamp for main light, and one 1,000-watt photoflood lamp for fill-in light; and (2) positioning the photoflood lamps so that the light rays strike the subject area at a 45° angle from a distance of 10 feet from the area being photographed.

Camera position. OVSC positions the camera at a distance of 6 feet from the center of the suspect area and utilizes ground glass focusing to properly focus the camera for that distance. Photographs are taken both at 90° and 45° angles relative to the suspect area.

Exposure. OVSC utilizes a General Electric, DeJur or Weston photoelectric exposure meter to determine the exposure requirements. Light readings are taken by measuring the intensity of reflected light from a Kodak Gray Card placed upon the area to be photographed. The meter is placed near enough to the subject (gray card) to indicate the average reflected light (at least within a distance equal to the width of the subject being photographed). A light reading is obtained and set opposite the film speed which is indicated on the meter so that the f/stop or the aperture settings and shutter speeds coincide. The correct camera setting is read directly from the meter.

Photographic print. OVSC produces 4 by 5 inch black and white photographic contact prints from the Polaroid film.

Examination of contact print. OVSC examines the completed contact print with the unaided eye for compliance with 581.5(c)(10).

CORRECTION OF PHASE I EFFECTIVE DATES

On May 12, 1977, NHTSA published a *Federal Register* notice (42 F.R. 24056) responding to petitions for reconsideration and revising the format of Part 581 as originally announced on March 4, 1976 (41 F.R. 9346). Those notices inadvertently indicated that the Phase I exterior surface requirements, now contained in paragraph 581.5(c)(8), would apply to vehicles manufactured from September 1, 1978 to August 1, 1979. The requirements of paragraph 581.5(c)(8) actually

apply to vehicles manufactured until August 31, 1979, and the regulation is therefore corrected to reflect the intended effective dates.

In consideration of the foregoing, the date "August 1, 1979," contained in 49 CFR § 581.5(c)(8), is hereby corrected to read "August 31, 1979."

The program official and lawyer principally responsible for this document are Nelson Gordy and Richard Hipolit, respectively.

(Secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); sec. 102, Pub. L. 92-513, 86 Stat. 947 (15 U.S.C. 1912); delegation of authority at 49 CFR 1.50).

Joan Claybrook
Administrator

43 F.R. 40229-40232
September 11, 1978

PREAMBLE TO AN AMENDMENT TO PART 581

Bumper Standard (Docket No. 73-19; Notice 29)

ACTION: Final rule.

SUMMARY: This notice amends the Bumper Standard to reduce the test impact speeds required by that standard to 2.5 mph for longitudinal front and rear barrier and pendulum impacts and 1.5 mph for corner pendulum impacts. The notice also amends the damage resistance criteria of the standard to eliminate limitations on the damage which may be incurred by the bumper face bar and associated components and fasteners in bumper testing.

The agency finds that under this action net benefits will accrue to the public and to the nation's consumers. This action is thus required by the mandate of the Motor Vehicle Information and Cost Savings Act that any bumper standard issued under that statute "seek to obtain the maximum feasible reduction in costs to the public and to the consumer," taking into account the costs and benefits of implementation, effects on insurance and legal costs, savings in consumer time and inconvenience and considerations of health and safety.

Any reduction in costs related to bumper systems, including savings from reduced fuel consumption, will exceed any reduction in benefits which may occur because of increases in damage, insurance costs, delay and inconvenience, and other matters. This action will thus increase and seek to maximize the net consumer and public benefits of the standard. The agency also finds that this action will cause no reduction in vehicle safety.

EFFECTIVE DATE: July 4, 1982.

SUPPLEMENTARY INFORMATION: The "Part 581 Bumper Standard" (49 CFR Part 581) specifies levels of damage resistance performance which

passenger motor vehicles must provide in low speed collisions. Bumper performance is measured in test impacts with both a fixed collision barrier and a pendulum test device. Bumpers must meet damage criteria which preclude any damage at all to vehicle exterior surfaces, which ensure protection of various safety-related components of the vehicle, and which allow only minimal damage to the bumper itself.

Background

The history of the Part 581 bumper standard has been long, extremely controversial and fraught with uncertainty. The current action is the culmination of years of study, analysis and agency action and reaction.

Federal Motor Vehicle Safety Standard 215

In its initial efforts in the field of bumper regulation, the National Highway Traffic Safety Administration (NHTSA) issued Federal Motor Vehicle Safety Standard (FMVSS) 215, *Exterior Protection*, under the National Traffic and Motor Vehicle Safety Act (the Safety Act). 15 U.S.C. 1381 *et seq.* As initially implemented on September 1, 1972, that standard imposed requirements which prohibited damage to specified safety-related components and systems, e.g., headlights and fuel systems, in a series of perpendicular barrier impacts, at 5.0-mph for front and 2.5-mph for rear bumper systems.

One year later, several new requirements became effective under FMVSS 215. First, rear barrier impact speeds were increased from 2.5-mph to 5.0-mph. Second, the standard specified 5.0-mph perpendicular front and rear pendulum impacts and 3.0-mph corner front and rear pendulum impacts. Third, a bumper height requirement was in fact established by specifying that the longitudinal pendulum impacts must be

made between a height of 16-20 inches. (The corner pendulum impacts were limited to a height of 20 inches until September 1, 1975, when the standard specified that they must be made within the same 16-20 inch height range.)

Motor Vehicle Information and Cost Savings Act

On October 20, 1972, Congress enacted the Motor Vehicle Information and Cost Savings Act, ("the Act"). 15 U.S.C. 1901 *et seq.* The stated purpose of Title I of the Act is to "reduce economic losses associated with low speed collisions of motor vehicles." 15 U.S.C. 1901(b). Section 102(a) directed the Secretary of Transportation¹ to promulgate bumper standards in accordance with the criteria of section 102(b) which requires that such standards—

seek to obtain the maximum feasible reduction of costs to the public and to the consumer, taking into account:

- (A) the cost of implementing the standard and the benefits attainable as the result of implementation of the standard;
- (B) the effect of implementation of the standard on the cost of insurance and prospective legal fees and costs;
- (C) savings in terms of consumer time and inconvenience; and
- (D) considerations of health and safety, including emission standards.

15 U.S.C. 1912 (b)(1)

The Act also provides that the bumper standards must not conflict with motor vehicle safety standards issued under the Safety Act. 15 U.S.C. 1912(b)(2).

Adoption of the Part 581 Standard

Pursuant to both the new authority of the Act and that of the Safety Act, NHTSA established the Part 581 Bumper Standard in 1976. 41 Fed. Reg. 9,346 (March 4, 1976). As adopted, this

¹The authority of the Secretary to promulgate safety standards has been delegated to the NHTSA Administrator. 49 CFR 1.51(a).

standard combined the safety features of FMVSS 215 with new damage resistance criteria intended to promote consumer cost savings.

The Part 581 standard established compliance test procedures which consist of a series of five test impacts on both the front and the rear bumper. Each test series includes one longitudinal barrier impact, two longitudinal pendulum impacts and two corner pendulum impacts.

The Part 581 standard sets forth substantive requirements in terms of damage resistance criteria which took effect in two stages. The first stage, or "Phase I" of the Part 581 standard, became effective on September 1, 1978, on which date FMVSS 215 was *ipso facto* revoked. Phase I incorporated the former FMVSS 215 safety criteria, and added new damage resistance criteria which prohibited damage to all exterior vehicle surfaces, e.g., sheet metal, *other than* the bumper face bar and related components and fasteners.

More stringent damage resistance criteria, known as the "Phase II" criteria, became effective one year later, on September 1, 1979. The Phase II criteria expanded Part 581 by also imposing limits on the amount of "dent" and "set" damage which could be sustained by the bumper face bar itself in the same series of test impacts. "Dent" refers to permanent deviation from the original contour of the bumper face bar in areas of contact with the barrier face or the impact ridge of the pendulum test device. "Set" refers to permanent deviation of the bumper from its original contour and position relative to the vehicle frame. Phase II limited allowable dent to 3/8 inch, and set to 3/4 inch, each as measured thirty minutes after completion of each test impact.

Early Proposals and Evaluations of the Bumper Standard

1973

NHTSA initially proposed a Part 581 standard in August 1973, while FMVSS 215 was in force, but after the passage of the Act. This 1973 proposal would have required protection against damage in 5.0-mph test impacts. 38 Fed. Reg. 20,899 (August 3, 1973).

1975

NHTSA thereafter issued a second Part 581 proposal, in January 1975. This revised proposal

would not only have reduced (at least temporarily) the impact speeds required by FMVSS 215, but also would have reduced the damage resistance criteria contained in the Part 581 proposal still pending from 1973. 40 Fed. Reg. 10 (January 2, 1975). These proposed reductions were based primarily on the results of two intervening agency-sponsored studies, which indicated that the cost and weight of many of the then-current production bumpers had made such bumpers no longer cost-beneficial. The 1975 proposal would also have reduced the number of longitudinal pendulum impacts from six front and six rear, to three front and three rear.

After considering information and arguments submitted in response to the August 1973 and January 1975 proposals, the agency issued yet another proposal in March 1975. 40 Fed. Reg. 11,598 (March 12, 1975). At that time, the agency withdrew the January 1975 proposal regarding test speeds, and proposed instead only to amend the still pending 1973 proposal to reduce the number of longitudinal pendulum impacts to two front and two rear.

1976

The agency finally promulgated the Part 581 Bumper Standard in March 1976, specifying 5.0-mph test impact speeds and requiring a total of five barrier and pendulum impact tests for the front bumper and five for the rear.

1977

In 1977, however, NHTSA issued two further rulemaking proposals. The first would have delayed the effective date of the Phase II damage criteria one year. 42 Fed. Reg. 10,862 (February 24, 1977). The second, which replaced the first, proposed three alternatives: (1) a one-year delay of Phase II; (2) a one-year delay with a consumer information program on bumper performance in the interim; and (3) an indefinite delay of Phase II and substitution of the information program. 42 Fed. Reg. 30,655 (June 16, 1977). These proposals were withdrawn by the agency in November of that same year. 42 Fed. Reg. 57,979 (November 7, 1977).

Also in 1977, NHTSA decided to undertake a series of long term studies of its existing and proposed rulemaking efforts. As a part of this initiative, it began a multi-year evaluation of the

Part 581 Bumper Standard. This evaluation which was released in April 1981, is discussed in detail below.

1978

In 1978, and after the effective date of the 5.0-mph, Phase I standard, the Senate Appropriations Committee included in its report on the fiscal year 1979 Appropriations Act for the Department of Transportation a directive that NHTSA conduct studies and analyses reevaluating to the maximum extent feasible the question of the level of bumper damage resistance which would be most cost-beneficial to the consumer. The Committee further directed the agency to modify the Part 581 standard (i.e., the standard to which this current rulemaking is addressed) in accordance with the results of such analyses. S. Rep. No. 938, 95th Cong., 2d Sess. 25 (1978).

1979

In February 1979, the agency completed a Preliminary Analysis which concluded that 2.5-mph bumpers offered approximately \$77 more net benefits than 5.0-mph bumpers. In March 1979, the agency published an advance notice of proposed rulemaking seeking public comment on its February analysis. The notice indicated that the responses would be used to aid NHTSA in preparing a final report to the Senate Appropriations Committee and in determining the possible need for changes in the Part 581 standard.

In June 1979, NHTSA published a "Final Assessment of the Bumper Standard." That document estimated the net benefits of alternative bumper standards specifying test impact speeds of 2.5 mph, 5.0 mph, and 7.5 mph. The agency at that time concluded that a standard specifying 5.0-mph impact speeds should be retained since it was believed to provide slightly more lifetime vehicle net benefits (\$39) than one specifying 2.5-mph impact speeds. In December 1979, the agency updated its assessment based on comments received from the automotive and insurance industries. It concluded that the advantage of the 5.0-mph standard over the 2.5-mph standard was less than previously thought, offering only \$11-29 more lifetime vehicle net benefits than a standard specifying 2.5-mph speeds.

In late 1980, during the final days of the 96th Congress, a House-Senate conference committee reported out a bill which would have statutorily reduced the test speed in the Part 581 standard to 2.5 mph for a two-year period. H. R. Rep. No. 1371, 96th Cong., 2d Sess. 25 (1980). Sharp differences of opinion regarding the relative merits of the agency's two 1979 bumper analyses were highlighted in the Congressional debates. See, e.g., Senate debate of September 25, 1980, 126 Cong. Rec. S13499-501. However, Congress adjourned without taking final action on the bill.

1981

In April 1981, NHTSA published a notice of intent to review the Part 581 standard and propose again to modify the requirements of the Part 581 Bumper Standard. 46 Fed. Reg. 21,203 (April 9, 1981).

Also in April 1981, NHTSA completed and published its "Evaluation of the Bumper Standard," which it had begun in 1977. Based upon continually developing data and analyses, this report addressed in still further detail the costs and benefits of each phase of the agency's bumper requirements, beginning with the initial FMVSS 215 standard. The April 1981 Evaluation incorporated newly developed data from various agency studies on insurance claims for vehicles manufactured since the Part 581 standard took effect, on the incidence and extent of low speed collision damage, and on bumper costs. Unlike previous studies, the Evaluation separately analyzed front and rear bumpers. It found that regulated front bumpers tended to be cost effective while rear bumpers were not. This study, in accordance with both the Senate's 1978 directive and the provisions of Executive Order 12291, formed the basis for the agency's undertaking the current rulemaking.

Current Rulemaking

October 1981 Proposal and Analysis

On October 1, 1981, NHTSA published a notice of proposed rulemaking (the NPRM) seeking comments on nine different alternatives for amending Part 581. 46 Fed. Reg. 48,262. The proposals ranged from one reducing the test

impact speed to 2.5 mph for rear bumpers only to one eliminating all test impact requirements for front and rear bumpers except as necessary to maintain a height requirement. Specifically, the nine alternatives were as follows:

- Alternative IA would have reduced the test impact speeds for rear bumpers only to 2.5 mph for longitudinal impacts and to 1.5 mph for corner impacts. It would have maintained the test impact speed for front bumpers at 5.0 mph and would have maintained the Phase II damage resistance criteria. (5.0 mph front/2.5 mph rear, Phase II)

- Alternative IB would have made the changes included in alternative IA and substituted Phase I damage resistance criteria for Phase II criteria for front and rear bumpers. (5.0-mph/2.5-mph, Phase I)

- Alternative IIA would have eliminated the damage resistance criteria for rear bumpers only, with the exception of the criterion that is intended to ensure uniform bumper height by requiring bumper contact with a pendulum test device within a specified height range. It would have maintained the 5.0-mph test impact speed and Phase II criteria for front bumpers. (5.0 mph/height only, Phase II)

- Alternative IIB would have made the changes included in alternative IIA and substituted Phase I criteria for Phase II criteria for the front bumper. (5.0 mph/height only, Phase I)

- Alternative IIIA would have reduced the test impact speed for front and rear bumpers to 2.5 mph for longitudinal impacts and 1.5 mph for corner impacts. It would have retained the Phase II damage criteria. (2.5 mph/2.5 mph, Phase II)

- Alternative IIIB would have made the changes included in alternative IIIA and substituted Phase I criteria for Phase II criteria for front and rear bumpers. (2.5 mph/2.5 mph, Phase I. This alternative is referred to below as the 2.5-mph/2.5-mph alternative.)

- Alternative IVA would have reduced the test impact speed for front bumpers to 2.5 mph for longitudinal impacts and 1.5 mph for corner impacts. It would also have eliminated the damage criteria for rear bumpers with the exception of the bumper height criterion. (2.5 mph/height only, Phase I)

- Alternative IVB would have made the changes included in alternative IVA and substituted Phase I criteria for Phase II criteria for front bumpers. (2.5 mph/height only, Phase I)

—Alternative V would have eliminated the damage resistance criteria for front and rear bumpers, with the exception of the bumper height criterion. (height only/height only)

The alternatives set forth in the NPRM were developed during the preparation of a Preliminary Regulatory Impact Analysis (PRIA) (Docket 73-19, Notice 27, No. 011).² The PRIA which was published for public comment simultaneously with the NPRM, built upon all of the agency's earlier evaluations and assessments. To encourage close scrutiny of the PRIA and the NPRM, and in recognition of the limited empirical data on several important issues, the agency specifically requested comment on 25 detailed questions which were set forth in the NPRM.

Using the present Part 581 standard for comparison, the PRIA estimated the changes in costs and benefits that were likely to occur if the standard were modified in each of the ways set forth in the October notice of proposed rulemaking. The PRIA concluded that the differences in probable net benefits among several alternative bumper standards were small. The results of the PRIA suggested that while 5.0-mph bumper requirements had in fact reduced lifetime repair costs for cars, they also had increased both car purchase prices and fuel consumption. The 5.0-mph bumper requirements had in fact reduced lifetime repair costs for cars, they also had increased both car purchase prices and fuel consumption. The 5.0-mph bumper requirements were found to have decreased insurance company claims payments and overhead, but also to have increased the manufacturing costs of car companies.

Public Meetings

The agency conducted two public meetings on the NPRM on October 22 and November 12, 1981, in fulfillment of the statutory requirement that

²In preparing the PRIA, the agency also considered the possibility of raising, as well as lowering the required test impact speeds. The 1979 Final Assessment stated that a 7.5-mph bumper would have marginally greater net benefits than a 5.0-mph bumper. However, the Executive Summary for that document indicated that the conclusions regarding the 7.5-mph bumper were based on substantially less data than were the conclusions regarding the 5.0-mph bumper and thus that the conclusions about the 7.5-mph bumper were far less reliable. Subsequently obtained data and analyses have not provided any basis for placing more credence in those three-year-old conclusions about 7.5-mph bumpers.

all interested persons be given an opportunity to present orally data, views and arguments on the October 1981 NPRM. The agency scheduled two separate meetings instead of a single extended one in response to a request by insurance industry representatives. Those representatives requested an opportunity to introduce data relating to suggested new compliance technologies whose use would reportedly allow the existing requirements of the Part 581 standard to be retained with little if any modification, but at greatly reduced economic cost. In the notice announcing the meetings, the agency urged all interested parties to provide technical and economic data that would help focus the issues at the first public meeting, and indicated that the second meeting would be used to allow others to respond to testimony at the first meeting. 46 FR 48958 (October 5, 1981).

The views and arguments advanced by responding parties with substantial economic interests at stake, e.g., the insurance and automotive manufacturing industries, were similar to those previously expressed in response to earlier analyses, proposals, and requests for comments. However, commenters did submit significant new data on several issues, including those relating to the cost and weight of bumpers providing different levels of protection.

Positions of Interested Parties

Time impact speed. Insurance industry representatives, generally joined by consumer representatives, expressed their support for retaining the current Part 581 requirements, based upon assertions of favorable benefit and cost analyses of the current standard, safety considerations, and the legislative history of the Act. Insurance representatives further contended that the legislative history indicates a Congressional intent that bumper standards be established at a level of 5.0 mph. They strongly opposed the option of adopting Regulation No. 42 of the United Nations Economic Commission for Europe (ECE).³

³ECE Regulation No. 42 requires that a car's safety systems continue to operate normally after the car has been impacted by a pendulum or moving barrier on the front and rear longitudinally at 4 kilometers per hour (about 2.5 mph) and on a front and rear corner at 2.5 kilometers per hour (about 1.5 mph) at 455 mm (about 18 inches) above the ground under loaded and unloaded conditions. See discussion under "Harmonization," below.

Some insurance industry commenters contended that the record in this proceeding is insufficient to support any reduction of the damage resistance or safety requirements of the Bumper Standard below current levels. These commenters, joined by an organization presenting arguments on behalf of consumers, argued (1) that in order to amend the standard the agency must be able to establish affirmatively that any selected alternative is one which uniquely meets the statutory criteria of the Act and the Safety Act, in a manner superior to any and all others, and (2) that on the record the agency is not able to make such a finding with respect to any particular alternative.

Auto industry commenters overwhelmingly supported the alternative proposing reduction of test impact speeds to 2.5 mph in longitudinal impacts and 1.5 mph in corner impacts, and substitution of Phase I damage criteria for Phase II criteria. Among the reasons stated in support of this alternative were assertions of cost-benefit analyses for that alternative more favorable to the consumer, the results of the agency's prior analyses, the similarity of this alternative to ECE Regulation No. 42, the greater relevance of the 2.5-mph design speed to the speed of the typical parking lot collision, and the enhanced prospects of gathering field data on the relative merits of 2.5-mph and 5.0-mph bumpers.

Three foreign manufacturers stated that they favored adoption of the requirements of ECE Regulation No. 42, but that the 2.5-mph/2.5-mph alternative was their second choice because of its similarity to the European standard. Several other manufacturers, while not advocating the adoption of the ECE requirements as such, noted the desirability of harmonizing United States and European bumper requirements. Some domestic and foreign automakers expressed reservations about adoption of the ECE standard in its entirety, but advocated adopting certain aspects of that standard, such as eliminating the fixed barrier test or establishing a single permissible bumper height.

A trade association representing materials suppliers registered its support for the 5.0-mph/5.0-mph standard, asserting that the standard provides the added advantage of affording actual protection at speeds above 5.0 mph. One bumper component manufacturer proposed the additional

alternative of lowering the pendulum impact speed to 2.5 mph, while retaining the 5.0-mph impact speed for barrier tests. That commenter contended that the pendulum test, which concentrates force on a particular area of the bumper, is a disproportionately severe test which prevents use of optimum 5.0-mph bumper designs.

A number of private individuals also submitted views on the proposed alternatives. The majority of those commenting favored retention of existing Part 581 requirements, although apparently some comments were based on factual representations contained in media reports of the rulemaking proceeding, instead of the data and issues actually under review. See, e.g., Docket 73-19, Notice 27, No. 209. Insurance industry and public interest commenters claimed that public opinion favors the 5.0-mph/5.0-mph standard, and that significant, if not determinative weight should be given to such alleged preferences.

Phase I-Phase II damage resistance requirements. Several commenters specifically addressed the issue of differences between the Phase I and Phase II damage criteria. Automakers addressing the issue uniformly favored return to the Phase I criteria. Two manufacturers advocated elimination of all criteria addressed to damage to non-safety components. The insurance industry generally favored retention of the Phase II criteria, as did a component parts manufacturer, although one insurance industry commenter advocated consideration of permitting nonself-restoring energy absorbing devices.

Other test procedure modifications. Commenters discussed several other alternative approaches to the Phase I-Phase II issue, including merely amending the bumper standard test procedures. One modification discussed by several commenters would allow manual repositioning of bumper or shielding-panel components during testing. Both insurance and auto industry commenters agreed that manual repositioning would be a desirable modification of the bumper system test procedure. However, some auto industry commenters also stated that eliminating the Phase II damage criteria would serve to alleviate much of the need for manual repositioning.

Three vehicle manufacturers and one component supplier recommended limiting the number of pendulum test impacts so that the bumper standard test procedure would more closely

approximate real life experience. These commenters advocated reducing the number of pendulum impacts to one longitudinal impact and one corner impact per bumper, or to one longitudinal and two corner impacts per bumper.

For additional details concerning comments on the NPRM, see the appendix to this notice.

Agency Decision

Drawing on the best available data, public comments submitted in response to the October 1981 NPRM, and comments presented at NHTSA's public meetings on October 22 and November 12, 1981, NHTSA has now completed a Final Regulatory Impact Analysis (FRIA) of the bumper standard alternatives. Docket 73-19, Notice 29, No. 001. Careful consideration was given to the data and analyses contained in the FRIA and all comments received in the rulemaking proceeding. Responses to all significant comments are contained either in this notice or the FRIA. Based on its review of all of these materials, the agency has decided to adopt the 2.5-mph/2.5-mph, Phase I alternative. The alternative reduces to 2.5 mph the front and rear longitudinal barrier and pendulum impacts for testing compliance with the safety and damage resistance criteria and substitutes Phase I damage resistance criteria for Phase II criteria.

In the agency's judgment, neither costs savings nor safety considerations warrant the retention of the current standard. Indeed, the agency believes that the changes in the damage resistance criteria and the compliance test speed are necessary in order to comply with the requirements of the Act that the standard seek to provide the maximum feasible reduction in costs to the public and the consumer.

As discussed in more detail below and in the FRIA, the extensive data analyzed by the agency and the reasoned assumptions made by the agency after opportunity for public comment have led the agency to the firm conclusion that the current 5.0-mph/5.0-mph standard does not meet the statutory requirements. Stated simply, the current standard does not provide or seek to provide the maximum feasible reductions in cost. Therefore, the agency has determined that the current standard can no longer be retained in accordance with the Act. Similarly, it is clear that a standard imposing a height-only requirement

for front and rear bumper systems would provide fewer net benefits than other alternatives considered in this rulemaking proceeding.

The agency recognizes that no single remaining alternative is dramatically superior in terms of net benefits over the wide ranges of reasoned assumptions made about the values of certain important variables. However, after careful comparison of the current standard and the specific proposed alternatives under ranges of assumptions, the agency concludes that the 2.5-mph/2.5-mph, Phase I alternative best satisfies the statutory criterion that the bumper standard "seek to obtain the maximum feasible reduction of costs to the public and to the consumer."

The agency has concluded that the alternatives involving differential front and rear impact speed requirements are less desirable because of uncertainties surrounding the effects of impacts between bumpers with different levels of aggressivity. These alternatives received no support among commenters. Alternatives involving height-only requirements for rear bumpers appeared to provide slightly less net benefits than the 5.0-mph/2.5-mph and 2.5-mph/2.5-mph alternatives under most sets of assumptions considered.

Alternatives which have higher impact speed requirements and would produce essentially the same net benefits, differ from the selected alternative principally in that they make an even trade of additional dollars saved in avoided damage for additional dollars spent for damage protection at such higher speeds. Those alternatives would thus fail to meet the test of the statutory criteria with respect to "maximum feasible reduction of costs." The initial direct costs to consumers of the selected alternative are less than those of that alternative which would in the agency's judgment be most likely to provide comparable net benefits, the 5.0-mph/2.5-mph alternative.

The agency has also concluded that reducing the impact speed to 2.5 mph and eliminating the Phase II damage criteria will not have an adverse effect on safety. Such amendments will have no discernible effect on the number of accidents, deaths or injuries that occur annually.

The new standard adopted in this notice will provide greater latitude and incentive for car manufacturers to improve bumpers through the

innovative use of new designs and materials, while conforming to the clear Congressional directive that the agency promulgate and enforce a minimum performance standard seeking maximum feasible reductions in cost. Also, the chosen alternative best advances the goal of harmonization with international standards while meeting applicable statutory requirements.

Pursuant to Executive Order 12291, the agency has concluded that there is a strong and reasonable basis in the record of this rulemaking proceeding for the factual conclusions and choices of data and methodologies underlying the selection of the 2.5-mph/2.5-mph alternative.

Agency Rationale

The sharply opposed positions of the commenters on the many complex technical, analytical and policy issues raised in this proceeding provide dramatic evidence of the difficulty which the agency has faced in reaching this decision. The primary issues involved in the agency's decision are as follows.

Resolution of uncertainty. The Act directs not only that a bumper standard be adopted and maintained, but also that such standard be set at the particular level of performance which "seeks to provide the maximum feasible reduction of costs to the public and to the consumer," taking into account specified elements of costs and benefits.

On several of the issues presented in choosing among the various alternatives, the agency was confronted with uncertainties arising either from conflicts among data or from the absence or limited nature of relevant, reliable data.

Because of the prior history of the standard and the sequence of technology used by manufacturers to comply over time, field performance data under real world conditions are sharply limited to empirical data on two types of systems, as discussed elsewhere in this notice. As a result, the combination of the specificity of the statutory language and the limited nature of the data available has left the agency certain of the need to act, but marginally less certain as to which of the available alternatives and which means of analysis of such alternatives will produce the result most in conformity with the intent of Congress.

For several years, the agency has been taking all prudent steps to obtain more data to reduce

uncertainty with respect to the appropriate standard and to analyze and account for the possible effects of remaining uncertainties on certain key variables. In a number of areas, more reliable data could not be developed by the agency. In the PRIA, the agency carefully identified and explained the assumptions it made in those areas and invited public scrutiny and comment. To ensure full discussion of all of the issues presented, the agency asked detailed questions regarding those assumptions in the October 1981 NPRM.

The agency's assumptions were the subject of extensive public comment. The agency received over two hundred comments from a full spectrum of interested parties and sought to gather all available data on the subject of this proceeding. New data, estimates and arguments were received which have assisted the agency in adjusting and refining its analysis of the standard and the alternatives.

The agency believes that sufficient information exists to make all determinations required by applicable statutory criteria. The uncertainties confronting the agency now are significantly less than those which existed when the current standard was promulgated. The agency knows far more now about the benefits and costs of bumper standards with various levels of performance requirements than it did then. In the agency's judgment, there is no reasonable prospect of obtaining more definitive data under the continued application of the existing Part 581 standard.

The record is most clear on the issue of the present standard's noncompliance with the criteria in the Act. If the agency were now setting a bumper standard for the first time, it could not justify establishing a 5.0-mph/5.0-mph standard. The existing 5.0-mph standard provides significantly less net benefit to the public and consumers than would several of the proposed alternatives with less stringent performance requirements.

The record and empirical data before the agency are less definitive with respect to some aspects of the agency's assessment of the proposed alternative standards. Some uncertainty continues to exist with respect to several issues, including the proper economic value to be assigned to delay and inconvenience, the number of relevant low-speed impacts which a car may be expected to sustain over its lifetime, the proper economic

value to be assigned to damage which car owners themselves elect not to repair, the proper factor to be applied to determine the relationship between increases in bumper weight and resulting increases in the weight of other vehicle systems and structures to accommodate the heavier bumpers (secondary weight), and the extent of weight reductions which would accrue if various alternative standards were adopted.

NHTSA has explored these areas of uncertainty to the limits of available data and appropriate analytical techniques. Ultimately, the agency has relied in these areas upon inferences from available data, informed judgment about engineering, technical, economic and legal matters, and the informed and expert opinion of commenters on the issue of which alternative level of performance requirements will best achieve the policy objectives set forth in both the Cost Savings and Safety Acts.

The agency has subjected its interim findings and conclusions to sensitivity analyses, to identify and isolate the most significant (i.e., outcome determinative) variables and to determine the levels of confidence which may be placed on the values ultimately assigned to such variables. Where NHTSA could not with certainty assign a single value to a variable determined to be significant, the agency in all cases employed a range of values based upon the best available information. Those ranges generally include the values recommended by the commenters. The use of these ranges permitted the agency to examine the sensitivity of the results of its analysis and ensure the integrity of the outcome.

Finally, the agency identified the sets of assumptions it believes are most probable, and subjected each of its comparative analyses to various combinations of such values. These choices and related assumptions are discussed below in this notice and in greater detail in the FRIA itself.

Selection of test speeds, cost savings considerations—threshold factors. In its efforts to ensure the fullest consideration of the current standard and the proposed alternatives, NHTSA analyzed the net benefits of the standard and each alternative both by the use of average values and the use of extreme values for those variables about which there was either a significant measure of uncertainty or sharp and

irreconcilable differences of opinion among the commenters. Some of the extreme assumptions were favorable to the current standard, while others were favorable to a reduced standard. The extreme values so analyzed represent in most cases neither a probable nor a reasonable outcome of events. Such analysis illustrates the most extreme of the possible outcomes in order to ensure the fullest consideration of the results of the agency's action.

Under the three sets of those extreme assumptions deemed to be the more reasonable by the agency, the net benefit calculation was found to favor a reduced standard. In these comparisons, all but one alternative proposal proved superior to the 5.0-mph/5.0-mph standard in terms of net benefits. See Table X-9 of the FRIA.

Only under the fourth set of extreme assumptions considered by the agency did the current standard yield more net benefits than did the alternatives. See Table X-9 of the FRIA. However, the agency considers it virtually impossible that the factual elements of that combination of assumptions could occur in reality, in large part because of inherent contradictions in economic or behavioral results that would be associated with such alignment. See Chapter XI of the FRIA.

Therefore, the agency can not, consistent with its statutory mandate, retain the existing standard.

Similarly, alternative V, which would have eliminated all but the height requirement for both front and rear bumpers, also is found to fail to maximize net benefits to the consumer under the range of combinations of assumptions considered. No set of assumptions or average set forth in Tables X-9 and X-10 of the FRIA showed superior net benefits for alternative V. Accordingly, this alternative has been rejected by the agency.

Given the relatively flat nature of the cost and benefit curves over the range between the 5.0-mph/2.5-mph and 2.5-mph/height-only alternatives, the choice among the remaining alternatives is more difficult. Particular sets of assumptions would suggest the superiority of various alternatives which retain some level of front bumper impact requirements but which would eliminate all impact requirements, and

retain only a height requirement, for rear bumpers. However, any such apparent superiority in each case occurs only in the unique event of one combination of assumptions. Viewed as a whole, the data and probabilities associated with all combinations of assumptions preclude any reasonable finding that an alternative is superior where the range of necessary factual preconditions is so narrow.

First, under the sets of assumptions considered by the agency to be most likely or representative, the 2.5-mph/unregulated alternative cannot be found to be the alternative which is most likely to maximize net benefits. See Table XI-4 of the FRIA. Under all three sets of assumptions in that table considered by the agency to represent the most likely or average values for disputed elements of fact, the 2.5-mph/unregulated alternative provides fewer net benefits than does the 2.5-mph/2.5-mph alternative. Under two of those sets of facts, the net benefits of the 2.5-mph/unregulated alternative are also inferior to those of the 5.0-mph/2.5-mph alternative.

Second, while the net benefits of the 5.0-mph/unregulated alternative are closer to those of the 5.0-mph/2.5-mph and 2.5-mph/2.5-mph alternatives, they are still inferior. The net benefits of that alternative exceed those of the 2.5-mph/2.5-mph alternative in only one instance in Tables X-9, X-10 and XI-4. In several instances, the 5.0-mph/unregulated alternative yields less net benefits than does either the 5.0-mph/2.5-mph or 2.5-mph/2.5-mph alternative.

Finally, there is another consideration which leads to the rejection of the 5.0-mph/unregulated alternative. Any alternative not providing front and rear impact protection at the same speed raises uncertainty about the aggressivity results or other effects of differential requirements.

Among the alternatives having differential requirements, the 5.0-mph/unregulated alternative has the most extreme differential. Since there are not any hard data on the effects of this differential, those effects could not be factored into the net benefit calculations in the FRIA. However, the agency's engineering judgment leads it to the conclusion that implementing a standard with such a differential would cause front bumpers to be more aggressive than rear bumpers. This aggressivity differential would cause rear ends of cars to receive greater but presently unquantifiable

levels of damage in car-to-car collisions than they would if the impact speed requirements were identical.

The amount of any such additional rear end damage would offset in whole or in part any incremental benefits derived from requiring front bumpers to comply with more stringent requirements. Since these possibilities are not reflected in the net benefit figures for alternatives with differential front and rear impact speeds in Chapters X and XI of the FRIA, such net benefit figures would have to be considered overstated in the event that differential requirements were imposed.

The agency notes that implementing a standard with different front and rear bumper requirements could tend, in a front-to-rear collision between two cars, to have the undesirable effect of subsidizing some of the damage costs of the driver of the striking vehicle, who is most likely to be deemed under law to be at fault in causing the collision.

Finally, although commenters differed on the actual effects of differential impact speed requirements for front and rear bumpers, no commenter advocated adoption of a bumper standard requiring different test impact speeds, and some manufacturers suggested that consumer expectations would make bumpers subject to height-only requirements unacceptable in the marketplace.

Selection of test speeds, cost savings considerations—final decision. The considerations discussed above and the requirement in section 102 that the agency's standard seek to maximize cost reductions thus necessitated the determination by the agency of which of the remaining alternatives, i.e., the 5.0-mph/2.5-mph and 2.5-mph/2.5-mph alternatives, would seek to provide the greatest superiority in net benefits.

Based on the analysis in the FRIA, the agency concludes that the 2.5-mph/2.5-mph alternative more fully satisfies all aspects of the statutory mandate than does the 5.0-mph/2.5-mph alternative. The agency's choice between these two alternatives was reached after comparing the estimated results of implementing these alternatives under all examined sets of extreme assumptions, as well as under those sets of assumptions deemed by the agency most representative or most likely to occur. Under the

sets of extreme assumptions in Table X-9 of the FRIA, an equal number of sets support the choice of each of these two alternatives.

However, when the highly unlikely fourth set of assumptions in Table X-9 is discarded, and the net benefits developed using the first three sets of assumptions in lines 1 through 3 of that table are averaged to represent equal probabilities of outcome for each of the sets of facts (See line 1 of Table XI-4), the 2.5-mph/2.5-mph alternative is clearly superior. This alternative yields \$42 in net benefits relative to the current standard, compared with \$33 in net benefits for the 5.0-mph/2.5-mph alternative.

The agency's direct comparison of these two alternatives in Table XI-4 under other sets (lines 2 and 3 of that table) of assumptions discloses that the 2.5-mph/2.5-mph and the 5.0-mph/2.5-mph alternatives would yield varying net benefits that do not differ greatly.

The agency has noted above the absence of hard data that would be desirable in determining precise values for some of the variables involved in projecting costs and benefits. It is important to note, however, that the variables about which the sharpest disagreements of fact have arisen in the record, e.g., the frequency of low speed accidents, the value of delay and inconvenience, and the appropriate factor to apply to arrive at secondary weight, are in fact also those variables which are the least significant to the outcome of the agency's net benefit calculations. For example, as shown in Table XI-2 of the FRIA, using the value for *each* of these variables which most favors retaining the current standard would reduce the net benefits of the 2.5-mph/2.5-mph alternative by only \$4-12 over the life of the car. A shift in the values assigned to these variables would thus be least likely to produce a change in the outcome of the agency's determinative net benefit calculations. Thus, the variables about which the greatest controversy has arisen are in most cases also those which are least important in the decision-making process.

In selecting this alternative, the agency was also guided by its conclusion that where two or more alternatives yield net benefits or ranges of net benefits which are difficult to distinguish, the cost savings goal of the Act is most fully satisfied by selecting the alternative with the requirements which impose the lowest direct, immediate costs.

The 2.5-mph/2.5-mph alternative is the one which imposes the least direct, immediate costs on the consumer, i.e., the least increase in the cost of a new car. To illustrate this point, if the unregulated bumper is considered the baseline, the agency's analysis indicates that the increase in direct immediate cost to the consumer for bumper system components alone would be \$21-41 for a car equipped to comply with the 2.5-mph/2.5-mph alternative, but \$30-58, or 50 percent higher, for a car equipped to comply with the 5.0-mph/2.5-mph alternative. The choice of the 2.5-mph/2.5-mph alternative over the 5.0-mph/2.5-mph alternative reduces the direct bumper component cost increases by \$9-17, and the difference would be even greater if secondary weight costs were considered. See Table VII-8 of the FRIA.

Selection of the alternative with less stringent requirements, and thus lower immediate costs, avoids forcing consumers to spend more in purchasing a new car in order to obtain what would only eventually, if at all, amount to equivalent net savings or benefits.

If the agency did not select the alternative with the lower immediate costs, the consumer would be required to spend additional money in pursuit of benefits whose occurrence and amount are less certain. The agency believes that the consumer is best served by an approach which in close cases favors the more certain over the less certain equivalent net benefit. NHTSA believes that this interpretation of the Act most fully implements the objectives of the Congress and of Executive Order 12291 and represents the soundest public policy.

The agency also must recognize, and if possible implement, the apparent distinction made in the Act between obtaining the "maximum feasible reduction of costs to the *public* and to the *consumer*" (emphasis added). The legislative history of the Act does not suggest a reason for the apparent distinction between the public at large and those who may purchase cars. One possible interpretation of this distinction is that Congress meant to seek the maximum possible benefits for the public in general, including those not purchasing cars. Once the agency has determined that the net benefits of the 5.0-mph/2.5-mph and 2.5-mph/2.5-mph alternatives are close, the agency believes that the only

interpretation which would give appropriate weight to the statutory distinction between the "public" and "consumer" would be the alternative which better permits the marketplace to work efficiently and to produce innovative designs, the implementation of which will reduce overall costs to society as well as the purchasers of new cars.

Several automobile manufacturers and component suppliers commented that reduction of the test impact speed to 2.5 mph would facilitate use of new components and technologies, including plastics, ultra-high strength steel, and single-unit bumper systems. NHTSA believes that such design flexibility would be beneficial to the public at this time for several reasons. Innovation could result in more effective bumpers at lower cost to the public than would otherwise be available. Innovation and variety will allow individual consumers to apply their own individual value determinations on such important issues as the cost of delay and inconvenience, by opting to purchase more protection than would be cost-beneficial to the consuming public at large under the Act. Innovation, variety and a range of implemented choices in the marketplace will permit the agency to monitor cost and benefit trends and collect data about different performance levels of bumpers in the future.

The 2.5-mph/2.5-mph alternative will permit more innovation than the 5.0-mph/2.5-mph alternative because the former allows wider design freedom. Moreover, the 2.5-mph/2.5-mph alternative will increase the economic incentive of the manufacturers to retool because the parts for the new designs could be used on both the front and rear bumper systems of a vehicle. Without such innovation and retooling, the designs of bumpers are more likely to remain static, at least in the short run, and the benefits of innovative designs will be unrealized or significantly delayed.

There are other considerations that support the selection of the 2.5-mph/2.5-mph alternative. As noted above, any alternative specifying the same front and rear impact speed is deemed preferable to alternatives involving differential front and rear test impact speeds since an alternative with symmetrical requirements would not raise uncertainty about the effects of differential requirements. Further, a bumper standard requiring differential front and rear

impact speeds would lead to increased production costs and an increase in replacement part inventories as a result of probable losses in commonality of front and rear bumper components. Reduced commonality in a mass production market would be likely to increase the consumer cost of new vehicles and replacement parts.

In view of these differences between the alternatives and the probable consequences of the selection of each, the policies and requirements of the Act favor the choice of the 2.5-mph/2.5-mph alternative. As noted later in this preamble, the goal of section 102 is not to provide maximum protection against damage in low-speed collisions without regard to the cost of such protection. Instead, the goal is to reduce front and rear end damage in low-speed collisions under a statutory criterion and specific considerations that, when read together, indicate the most appropriate result is the one that minimizes the total consumer and public expenditure related to such damage and its prevention. The agency believes that the distinctions it has drawn between and the choices it has made among the alternatives are fully consistent with, and required in furtherance of, the policies of the Act.

Selection of test speeds; safety considerations. As discussed in more detail later, adoption of the 2.5-mph/2.5-mph alternative will not have any measurable effect on the risk that future accidents might be caused by safety components which malfunction due to damage incurred in prior low-speed collisions and which are left unrepaired. Available data indicate that very few accidents occur as a result of malfunctioning of those vehicle components which are subject to the safety criteria of the bumper standard. The agency concludes that far fewer accidents could be attributed, and only by speculation, to a failure to repair such components after they had been damaged in the only type of collision relevant to this discussion, i.e., one which might occur at an impact speed between 2.5 mph and 5.0 mph.

Similarly, the agency concludes that reducing the bumper standard test speeds will not increase the risk that safety components damaged in such low-speed collisions will cause injury in subsequent accidents caused by other factors. The only safety-related system that is covered by the safety criteria of the Part 581 bumper standard and that might contribute to injury in the event

of an accident is the fuel system. However, the data relied upon by one commenter addressing this issue predated the effective date of FMVSS 301, Fuel System Integrity. That safety standard provides protection, independent of and substantially superior to that of the bumper standard, against the risk that fuel leaks will create a safety hazard in an accident.

The agency concludes also that reducing the test speeds for the safety criteria will not measurably affect the high-speed crash energy management of cars. The difference in the energy management capability of 5.0-mph bumpers and 2.5-mph bumpers is negligible at crash speeds such as those (30 mph) specified in the safety standards regulating the crashworthiness of new cars.

Finally, NHTSA concludes that reducing the bumper standard test impact speeds will neither create inconsistencies with any of the safety standards nor make compliance with those standards more difficult.

Corner impact speeds. It should be noted that selection of a 2.5-mph test impact speed for longitudinal impacts also necessitates the selection of a 1.5-mph corner impact requirement. The 1.5-mph corner impact speed represents an equivalent proportional reduction in the 3.0-mph corner impact speed in the current standard as compared to the reduction from 5.0 mph to 2.5 mph for longitudinal impacts. The agency has always established corner impact speeds at lower levels due to the greater damage potential of corner pendulum impacts relative to longitudinal pendulum impacts at the same speed. The greater relative severity of the corner impact results from the concentration of crash force on a single location, which is inherent in a corner impact, and the fact that impact absorbing devices are designed to provide maximum protection in the more common longitudinal impacts. If the proportional relationship of the longitudinal and corner impact speeds were not maintained, the effort to maximize net benefits would be frustrated.

Phase I versus Phase II. Making a choice between Phase I and Phase II damage resistance criteria was also difficult because of the limited empirical data available for comparing performance under the two sets of criteria. Phase I of the Part 581 standard remained in effect for

only one model year (MY), 1979, and available information indicates that many manufacturers proceeded directly to bumper designs intended to meet the Phase II requirements prior to their effective date. The information that is available from surveys of vehicle owners and from insurance files indicates no discernible difference between the net benefits of MY 1974-78 and MY 1980 bumpers. Even if this information did reveal a difference, there are no data which the agency could use to determine the relative contributions of Phase I and Phase II to those benefits.

No compliance testing of MY 1979 models was conducted by NHTSA. The agency's compliance test results for MY 1980 suggest greater levels of protection for MY 1980 cars than is found in empirical data on real world damage experience for Phase II bumpers. The agency believes that in such cases agency decisions must be more strongly influenced by real world data since they reflect actual experience and are more reliable indicators of future real world experience. The insurance claim and survey data reflect the myriad variations in accident conditions and circumstances encountered in actual driving. In contrast, the compliance tests involve a limited and idealized set of conditions and circumstances. Those tests were necessarily chosen by the agency with the knowledge that they were imperfect surrogates from which to predict on-road experience.

Those commenters addressing the issue generally noted the cost and weight savings available by deleting the Phase II requirements. Commenters also pointed out that the increased use of non-metallic face bars has decreased the visibility of dent and set and thus greatly changed the circumstances under which such damage must be evaluated. Moreover, as suggested in the comments, deletion of Phase II would eliminate present difficulties in evaluating minor damage in compliance testing. The agency has been unable to determine that there are any net benefits associated with the Phase II damage criteria, independent of impact speed requirements.

The agency has also noted and taken into account the factual information and assertions submitted by representatives of the insurance industry concerning the possible use of more economical compliance technology such as nonself-restoring energy absorbers. The use of such

technology is prevented by the current Phase II requirements. The availability of such technology on new bumper systems is a desirable result, independent of the impact speed requirement imposed by the bumper standard. Retaining the Phase II requirements would inhibit the further development of such technology.

Finally, the agency took into account the importance of distinguishing in its analyses among favorable net benefit results attributable to impact speed reduction only, those results attributable to action with respect to Phase II only, and those results attributable to both aspects of the decision. Factual data exist in the record only with respect to the first and third of these areas. Thus, any attribution of benefits to the Phase II requirements would be too speculative as a basis for agency decision. The agency believes that the probable effect of its current decision will be the introduction of bumper systems exhibiting at least some characteristics of 5.0-mph, Phase I bumpers. Bumper face bars and reinforcements designed for 5.0-mph impacts, and therefore most probably capable of affording even greater actual protection as a result of over-design to ensure compliance, will undoubtedly continue to be used in at least some new cars in the short term. Effectively, 5.0-mph, Phase I bumpers will thus be produced under the new standard, on an interim basis and for some portion of the new car fleet. The performance of these cars can and will be monitored closely by the agency to estimate the actual effects of the shift to Phase I criteria.

For all of these reasons, the agency has concluded that the Phase II criteria are not justified and that those criteria should be deleted from the standard.

Removal of optional equipment during compliance testing. Several commenters contended that existing Part 581 test procedures restrict the installation of certain optional equipment prior to sale of a vehicle to a first purchaser. Although one domestic manufacturer stated that its optional equipment sales were not restricted, other automobile and equipment manufacturers commented that existing test procedures inhibit installation of fog lamps, running lights, and headlamp washers. Commenters recommended dealing with this problem by removing such equipment prior to

testing, exempting such items from the protective criteria, or limiting testing to standard equipment only.

NHTSA believes that the safety value of optional equipment such as fog lamps has yet to be demonstrated conclusively. To the extent that the equipment does serve a safety function, permitting its removal during testing would encourage its installation and thereby promote safety. Further, distinguishing between optional equipment installed before the purchase of a new car and that installed after such purchase serves little purpose, since equipment installed after purchase would be just as likely to be damaged in a low-speed collision. Moreover, such a distinction unfairly discriminates in favor of aftermarket suppliers at the expense of manufacturers and dealers wishing to attach equipment prior to the sale of new cars. The agency also notes that possible cost savings from factory installation of optional equipment are lost if such installation is discouraged by the test requirements. For these reasons, the agency has amended the standard to permit removal of fog lamps, running lights, other optional equipment attached to the bumper face bar, and headlamp washers prior to testing.

Harmonization. The Trade Agreements Act of 1979 (19 U.S.C. 2532(2)), requires that the agency consider harmonization with international standards in its regulatory actions. In the present context, ECE Regulation No. 42 is relevant.

NHTSA has formally endorsed enhanced efforts at harmonization between and among international standards in presentations to the Group of Experts on the Construction of Vehicles (Working Party 29) which operates under the ECE's Inland Transport Committee. Explicit harmonization of a United States bumper standard with the ECE regulation could have some positive economic effects since domestic manufacturers might experience lower costs due to reduced need for differentiation in design and equipment between cars for sale in this country and cars for export. In addition, European manufacturers subject to the ECE regulation could experience similar reduced costs.

This consideration, however, cannot be deemed to be controlling where United States law creates specific performance or policy criteria for regulatory action. With regard to ECE Regulation No. 42, NHTSA has concluded that the Act

imposes specific criteria relating to cost savings which the ECE regulation does not address. Further, it is noted that the Act mandates the bumper standards issued thereunder be drafted so that they regulate performance instead of directly regulating bumper design. Certain provisions of the ECE regulation would impose statutorily impermissible design restrictions on vehicles produced for sale in this country. Finally, NHTSA has concluded that potential bumper mismatch problems could result from substituting the height requirement specified in that regulation for the requirement in the Part 581 Bumper Standard. NHTSA will continue to pursue the question of harmonization in appropriate forums, but at this time merely notes that the 2.5-mph/2.5-mph, Phase I alternative selected in this rulemaking is far more compatible with the ECE regulation than the current Part 581 standard or the 5.0-mph/2.5-mph alternative.

Number of pendulum impacts. Some commenters suggested that the number of pendulum test impacts required by the standard be reduced. However, given the likelihood that some cars may incur more than two low-speed bumper impacts in their lifetime, and the possibility that all such impacts may be either longitudinal or corner impacts and may involve the same bumper, the agency has concluded that the current procedure is appropriate to assure that each bumper is able to withstand the impacts to which it may in fact be subjected over its lifetime.

Public opinion survey. Some commenters alleged that public opinion strongly favors the retention of bumper requirements at current levels and should control the agency's decision in this rulemaking. As evidence of public opinion, two commenters cited a survey conducted by the Opinion Research Corporation, Inc., (ORC) for the Insurance Institute for Highway Safety.

NHTSA disagrees with the commenters' suggestion about public opinion. First, the level of bumper standards established by the agency under the Act cannot be determined merely on the basis of what members of the public understand to be the relevant facts and issues, or what they themselves would prefer. The Congress has determined the public policy which must be applied by the agency, and the agency's decision must be reached in accordance with the statutory criteria. Those criteria do not include public

preferences as such, although as noted in the FRIA, adequately demonstrated public preference may be relevant to assessments of future market demand and the response options available to the auto manufacturing and insurance industries.

Second, the agency does not believe that the ORC survey provides reliable evidence on public preferences regarding economic values associated with bumper alternatives before the agency. An analysis of the text of the survey discloses that the structure and specific questions asked did not compensate for the public's general lack of detailed information concerning the costs and benefits of bumpers. Yet the survey asked a variety of questions which could be meaningfully answered only by persons knowledgeable about such matters. Also, many of the specific questions may have inadvertently encouraged respondents to give inflated estimates of the value of the current bumper standard. For these and other reasons discussed in chapter III of the FRIA, the agency regards the ORC survey as an inconclusive indicator of informed public opinion.

Legal issues. Some commenters advocating retention of the current standard have questioned the adequacy of the record in this proceeding to provide a basis for decision and have challenged in advance the legal soundness of any decision to amend the standard.

In this rulemaking proceeding, the agency has compiled voluminous materials over a period of years which have been used in analyzing competing alternatives. Through the notice and comment process and two public meetings, the agency has received over two hundred comments from a full spectrum of interested parties and has gathered all available data on the subject of this proceeding. New data, estimates and arguments have been received which have assisted the agency in refining its analysis of the standard.

As noted above, the agency recognizes that a degree of uncertainty is present in some of its calculations and conclusions by virtue of the absence of conclusive real world data relating to certain categories of benefits and costs. However, this lack of factual certainty no more absolves the agency of its duty under section 102 of the Act to ensure that a bumper standard exists which in fact complies with the requirement to seek maximum feasible reductions in cost than could similar uncertainties have arguably absolved the

agency of its duty to issue a standard in the first instance. Under the Act, the agency is directed to adopt and maintain a standard. That standard is further required to meet certain statutory criteria. Implicit in this and any similar statutory mechanism is both a prohibition against rescinding an existing standard altogether and maintaining a standard which, on the basis of a developing evidentiary foundation is found either not to have any net benefits, or to have fewer net benefits than any one or more different standards. As noted above, explicit instructions to the effect were directed to the agency in 1978.

The agency does not accept an expansive view of the limitations imposed on the agency's action in this proceeding by the Act, as inferred by some commenters from the provisions of the Act itself. The agency is cognizant of the relevant statutory criteria imposed by this organic Act and has acted in accordance with them.

The statute does not require, and the legislative history does not support, an inference of Congressional intent that the agency be completely certain regarding the relevant factual issues before it conducts rulemaking under this Act. To the contrary, the Act, its legislative history and Congressional action to date have emphasized the presence of significant uncertainty on all of the relevant issues discussed in this notice. Recognition of the uncertainty may be seen in, for example, the wording of the criterion in section 102 governing the setting of the level of the bumper standard. The agency is not required to establish a standard that *produces* the maximum feasible reduction in costs, but one that "seeks to obtain" such a reduction. The agency has always considered itself bound to proceed with continuing review and rulemaking even in the presence of uncertainty. This conclusion and interpretation of the statute is consistent with the agency's actions since enactment, and is explicitly reasserted in this notice.

The statute also does not mandate that the standard be set so as to require the use of the most protective bumpers which can be produced. From the beginning of its action under the provisions of the Act, the agency has always recognized that such bumpers would be so expensive to produce and replace that their use would involve a net economic loss for consumers. 38 Fed. Reg. 20,899 (August 3, 1973). As the

agency also noted in that notice, rulemaking under the Act involves the balancing of many factors to determine what level of performance is most beneficial to the public and the consumer.

As the agency interprets the Act and its history, the purpose of the Act's bumper provisions is to secure cost savings for the public and the consumer. The bumper provisions address the issues of the costs of damage in low-speed collisions and the costs of avoiding that damage and authorize and direct the agency to set standards that minimize the combined total of these costs to the public and the consumer. The goal of seeking cost savings is promoted by setting the standards and as appropriate adjusting them toward the level where the marginal benefits equal marginal costs. That is, if raising bumper performance from its unregulated level yields more incremental benefits, reflected in damage reduction, than the incremental costs of increased damage protection, the standard should be raised. The impact speed requirements should be raised to the point where the incremental increase in damage avoided equals the incremental increase in costs. This is the point at which the cost savings or net benefits are maximized.

Raising the requirements above that point of equality would not provide the public and consumer with any additional cost savings. Two possibilities exist regarding the relationship of incremental benefits and costs above the point. One is that incremental benefits will be less than the incremental costs at all points above the point of equality. In that event, raising the requirements above the point of equality would reduce the cost savings achievable at that point. The other possibility is a variation on the first in that incremental benefits will equal or at least appear to equal incremental costs over some range of requirement levels immediately above the point of equality. The FRIA suggests that there may be a range over which incremental benefits and costs appear to be roughly equal. Setting requirements within such a range would not, however, increase cost savings, and would thus be of questionable validity. It would result in a simple trading of dollars, that is, receiving only as much in reduced damage as one pays for increased damage protection.

In this rulemaking action, NHTSA has determined that the 2.5-mph/2.5-mph alternative

is more likely than the current standard and the other alternatives to be the point of equality, that is, where the incremental benefits first equal the incremental costs. Accordingly, the agency has selected that alternative as the new standard. As noted above, setting a higher standard would not increase the savings to the public and consumers. A higher standard would only increase the direct, immediate costs which each new car purchaser must bear.

Some commenters have asserted that a 5.0-mph test impact speed is necessary to satisfy the expectations voiced in Congress during deliberations on the Act. While these expectations are relevant, the determinative fact in all instances must be what the Congress in fact did through legislative action. In the Act, the Congress did not set a particular standard, but instead adopted the maximum feasible cost reduction criterion, and required that bumper standards be set in accordance with it. The criterion is a deliberately flexible one which permits and even requires that bumper standards be adjusted based on available information.

Some commenters suggested that the agency is legally bound to maintain the Part 581 Bumper Standard at its present level because the standard incorporates the safety criteria of former FMVSS 215. One insurer asserted that the criteria in section 103(a) of the Safety Act must form a basis for any decision to amend the Bumper Standard. Those criteria require that safety standard be practicable, be stated in objective terms, and meet the need for motor vehicle safety. 15 U.S.C. 1392(a). Another insurer cited the legislative history of the Act in support of the proposition that Congress intended safety considerations to be controlling in establishing bumper standards.

Given the hybrid nature of the Part 581 Standard, this rulemaking action was initiated under the concurrent authority of the Act and the Safety Act. Without deciding whether the criteria established for safety standards under section 103 necessarily be applied in all cases under the Act where any safety relationship can be asserted, the agency has concluded, based on the discussion in this notice and the FRIA, that its actions in this proceeding are in all respects in accordance with the applicable criteria of the Safety Act itself.

By the same token, this action does not conflict with safety standards promulgated under the

Safety Act. To the extent that bumper standards may be considered to be safety standards, the 5.0-mph safety criteria of Part 581 have been determined to be unsupported, even under the Safety Act criteria, and are amended by this notice. Reducing the test speed does not make compliance with any safety standard more difficult. The changes made by this rulemaking action do not necessitate any change in efforts to comply with existing safety standards. To the degree that pedestrian impact protection is a relevant safety consideration, current agency research on the subject suggests the possibility of an adverse safety consequence from bumpers designed for impact speeds of 5.0 mph or higher.

The Final Regulatory Impact Analysis

NHTSA's FRIA estimates the changes in costs and benefits likely to result from amending the Bumper Standard. In assessing the relative merits of the alternative bumper standard amendments described in the notice of proposed rulemaking in this proceeding, NHTSA has considered all available evidence and viewpoints in order to quantify and analyze the various factors relevant to determining bumper system net benefits.

As discussed in the agency's FRIA, the primary measure of benefits of the Part 581 Bumper Standard is the economic cost of the damage avoided by use of a bumper designed to provide protection at a higher impact speed. In the agency's FRIA, this cost was determined for each alternative standard by computing the cost of repaired damage and unrepaired damage. The cost of damage was computed by first using the results of vehicle owner surveys and insurance company claim files to estimate the frequency of damage to bumper systems. This figure was then analyzed in terms of the projected effectiveness of that bumper system in preventing damage, as estimated from insurance records and by use of engineering judgment.

Reduced levels of savings representing the value of damage which the vehicle owner decides not to have repaired were determined by first estimating the repair costs for unrepaired damage described by car owners. NHTSA then reduced the repair cost by a range of values to reflect the fact that the damage was not repaired, the effect of vehicle age on the value of that damage, and the absence of any out-of-pocket expenses incurred by the car owner.

The agency's calculation of benefits also took into account insurance cost savings beyond the value of the damage avoided by the bumper system, i.e., through savings in administrative expense. Savings in consumer time and inconvenience resulting from damage avoidance at various levels of bumper damage resistance were also considered as benefits of bumper regulation. Such savings include the value of time saved at the scene of a low-speed accident, reduced time and expense in obtaining repair estimates, and savings in the avoided cost of obtaining alternative transportation while collision damage is repaired. Finally, although not subject to quantification in the agency's economic analysis, the agency considered the possible beneficial or adverse effects of bumper requirements on vehicle safety.

A very important cost impact of bumper regulation is the increase in new car prices attributable to the use of bumper systems providing greater levels of damage resistance. This cost consists of the cost of the bumper system itself and the cost of upgrading other vehicle components to support the additional weight of more damage resistant systems (i.e., the cost of secondary weight). The FRIA examines the changes in such costs that would result from adopting test speeds below those in the current standard. The costs used in the agency's FRIA represent the marginal change in costs resulting from changing from the current bumper standard to an alternative standard requiring lower levels of bumper performance. Costs are calculated in terms of actual cost to the consumer. Finance charges associated with that portion of the vehicle purchase price attributable to the bumper are considered and taken into account as appropriate.

In addition to the effect on the initial cost of purchasing a car, the added operating cost of driving a car with a heavier bumper system has been considered. The agency has estimated the additional fuel costs incurred in carrying the extra primary and secondary weight associated with bumper systems providing greater levels of damage resistance performance. Costs and benefits to be accrued in the future have been discounted to reflect their value in current dollars. Results of the FRIA have been stated in terms of positive or negative net benefits for the

various alternative standards, as compared to the costs and benefits of the current 5.0-mph/5.0-mph standard. See chapters X and XI of the FRIA.

In the agency's analysis, several factual issues are of particular importance, and the data and opinion evidence relied upon by the agency are summarized in greater detail below.

Frequency of bumper-related collisions. As noted above, benefits derived from the damage avoidance properties of bumpers are computed by estimating first the frequency of bumper-related collisions, and then the ability of the bumper system to protect the car in those collisions. Levels of protection thus computed yield benefits in terms of the costs which would otherwise have been incurred in connection with the avoided damage.

In 1970, the Ford Motor Company conducted a survey of actual observed damage to Ford cars in parking lots. Based on that survey, earlier NHTSA analyses estimated that the average car experienced 3.63 low-speed collisions involving its bumpers during its lifetime.

In the PRIA, the agency estimated the frequency of unreported, low-speed collisions at a lower number, based on the results of a telephone survey of principal operators of cars. That survey was conducted for NHTSA by Westat, Inc.

The agency's October 1981 NPRM specifically requested that commenters address the issue of the best method of estimating such low-speed collision frequency. Responding commenters disagreed on the relative merits of the cited damage frequency estimates. While car manufacturers argued for the use of figures derived from the Westat study, insurers generally favored higher estimates. Commenters addressing this issue generally expressed the view that the actual figure for low speed collision frequency would be somewhere below the figure of 3.63 lifetime impacts estimated from the parking lot surveys by Ford.

The agency agrees with commenters that the Ford survey is inadequate for use in the current context, by virtue of various factors, including its concentration on urban areas. The agency believes that the Westat survey, and the comments to the record by interested parties represent superior, and the best available, data on low-speed accident frequency. They have been considered in the computation of this factor. NHTSA has considered

the possible use of crash recorders on cars to assess accident frequency, but finds that this approach would be prohibitively expensive and not technically feasible at this time. For these reasons, the FRIA incorporates a range of values for low-speed accident frequency, using as the bounds of the range the highest estimate provided in the comments and the lower estimate derived from the Westat survey data.

Bumper system effectiveness. On the question of the effectiveness of bumper systems designed to provide protection at differing impact speeds, estimates used in the PRIA were based on comparisons by agency experts between the performance of cars with Part 581 bumpers and with pre-standard cars. The agency was able in the PRIA to make extensive use of field data to determine the effectiveness of bumpers designed to provide protection in 5.0-mph impacts. NHTSA was able also to supplement insurance industry data on reported accidents with Westat survey data on damage incurred in unreported accidents.

However, no similar data on the effectiveness of bumpers designed to provide protection at other impact speeds exists. As a result, the agency was forced to rely in its PRIA on data concerning MY 1973 rear bumpers for its estimates of 2.5-mph bumper effectiveness. These were the only bumpers ever sold in this country which were required to provide 2.5-mph protection. As an alternative and cross-check, the agency also considered in the PRIA estimates which had been developed for use in the June 1979 Final Assessment of the Bumper Standard, and which were based on engineering judgment of the agency's experts regarding the relative effectiveness of various bumper systems. The use of these estimates was supported by the insurance industry in its review of the 1979 Assessment.

Using this methodology, the agency estimated that 2.5-mph bumpers would achieve 67 percent of the effectiveness of 5.0-mph bumpers in low-speed collisions. That is, 2.5-mph bumpers would be two-thirds as effective in preventing damage as 5.0-mph bumpers would be.

Car and insurance industry commenters joined in arguing the unreliability of estimates based on the performance experience of MY 1973 rear bumpers. They stressed the lack of comparability between these early bumpers and the 2.5-mph bumper systems which would be produced today,

citing the absence of any uniform height requirement for MY 1973 bumpers, the actual similarity of MY 1973 bumpers to unregulated bumpers of prior years, the increased uniformity among bumper designs in the present vehicle fleet, and other factors related to the vehicle fleet mix. NHTSA agrees with commenters that data on MY 1973 rear bumpers fail to provide an accurate approximation of current 2.5-mph designs. NHTSA has concluded therefore that the methodology employing MY 1973 rear bumper data should not be used in estimating current levels of bumper effectiveness.

NHTSA has considered relying upon European data relating to the performance experience of bumpers designed in compliance with ECE Regulation No. 42 to assess the effectiveness of 2.5-mph bumpers but has concluded that adequate data of that type are not available. Although alternative data sources were specifically sought in NHTSA's October 1981 NPRM, no field data on the effectiveness of alternative systems in other countries were introduced into the record by commenters. Moreover, European bumpers are required to be designed to meet a safety standard only, and are tested under different procedures than American bumpers. Finally, differences in fleet composition and average vehicle weight, as well as the greater frequency of urban driving in Europe, would limit the relevance of data based on vehicles in use abroad to predicted vehicle experience in American driving conditions.

Insurance industry commenters presented to the record data on certain laboratory tests undertaken on production vehicles alleged to have been equipped with 2.5-mph bumpers, i.e., pickup trucks and multipurpose passenger vehicles not subject to the Part 581 requirements. NHTSA has concluded, based on the evidence in the record, that the damage levels reported in the insurance industry tests are not sufficiently relevant to predict 2.5-mph bumper performance. The tests reported upon were of limited scope, and no data have been introduced or are known to the agency from which to conclude that the bumper systems tested were designed to, or would in fact, comply with the Part 581 requirements in 2.5-mph barrier and pendulum impacts. Moreover, a commenter from the auto industry pointed out an instance in which the insurance claim frequency for a car equipped with a Part 581 bumper was actually higher than for its

counterpart, the four-wheel drive, multipurpose passenger vehicle version which was equipped with an unregulated bumper. The agency has therefore concluded that estimates based on extrapolation from field data better account for factors such as crash angle, impact speed, frequency of occurrence and vehicle fleet mix. Thus, NHTSA makes use in the FRIA of the 67 percent effectiveness figure employed in the 1979 Assessment, but now applies this factor to the superior lifetime damage estimates derived from the 1981 Evaluation.

Primary bumper costs and weight. With respect to the increase in costs associated with bumper systems providing greater levels of damage protection, many motor vehicle manufacturers submitted previously unavailable estimates of the cost and weight penalties associated with providing bumpers meeting current 5.0-mph performance requirements, as compared with the cost of complying with a 2.5-mph, Phase I requirement or with the ECE Regulation No. 42 bumper requirement.

The agency estimates in the FRIA that the primary cost differences between 5.0-mph and 2.5-mph Phase II bumper systems can be best expressed as a range from \$18 to \$35. The corresponding range of weight differences is estimated to be from 15 to 33 pounds. The \$18 to \$35 and 15 to 33 pound ranges are based on estimates submitted to NHTSA by the manufacturers and reflect the range of representative cost and weight savings estimates submitted.

In their submissions to the rulemaking docket, the manufacturers generally did not identify all changes in design or components that would take place if the bumper standard were reduced to 2.5 mph/2.5 mph. Certain changes were specifically noted, however. Manufacturers stated that such a reduction would allow the removal of self-restoring, heavy duty energy absorbers and noted that they would probably make that change. Some manufacturers also identified reducing face bar thickness and removing some reinforcements as being among the changes possible if the standard were reduced.

Although the estimates of cost and weight for 2.5-mph bumper systems included in the FRIA generally agree with current estimates of representative manufacturers, and are consistent with those confidential submissions made in response to the 1979 advance notice of proposed

rulemaking, other independent estimates have been generated which indicate that even greater weight reductions are possible if the Part 581 bumper standard were reduced to 2.5 mph/2.5 mph. For example, the 1979 Final Assessment cited a weight reduction estimate of 43 pounds developed by a design engineer under contract with NHTSA. Since the 43 pound figure was developed in reference to cars averaging 3,350 pounds in weight, the appropriate value applicable to the lighter average car produced today would be less. Assuming that weight loss in primary bumper weight would be proportional to total vehicle weight, the appropriate figure for today's cars would be approximately 36-37 pounds. Notwithstanding the higher value thus represented, the upper range set forth in the FRIA is 33 pounds. If the higher figures of 36-37 pounds were used, the weight and cost differential between 5.0-mph and 2.5-mph bumpers, and thus the benefits of the lower impact speed, would be even greater.

In addition, other independent cost studies submitted as evidence in the record indicate that the actual costs for all manufacturers of components such as energy absorbers may in fact be higher than cost estimates by the car manufacturers who submitted data on this point. See, for example, Docket No. 81-07 Notice 1, No. 006. If the cost avoided by removing such energy absorbers from a car were as high as \$48, instead of the \$20 estimated in confidential submissions responding to the 1979 advance notice of proposed rulemaking (as updated to reflect the weight of current cars), the additional cost savings of reducing the Part 581 standard to 2.5 mph/2.5 mph would be increased by \$28, thereby enhancing the cost reduction attributable to that alternative. In this case, although the result may be to underestimate the benefit of the lower standard, the agency has chosen to use in the FRIA the lower cost and weight estimates submitted by the manufacturers who commented in response to the NPRM, since such lower values produce benefit calculations less favorable to the regulatory result urged by the car manufacturers involved.

Secondary weight and cost. On the subject of secondary weight, NHTSA relied in its FRIA on methodologies developed by the Transportation Systems Center (TSC) of Cambridge, Massachusetts, and General Motors. The TSC methodology

assumes that, in the case of vehicles with unitized bodies, the vehicle body will not be affected by changes in bumper weight. This methodology results in a secondary weight factor of .5; that is, one half pound of secondary weight will be added to the rest of the vehicle for each pound of added bumper weight. The General Motors methodology, based on actual component weights of MY 1974 General Motors products, assumes that all the weight of a unitized vehicle body is affected by secondary weight. This methodology results in a secondary weight factor of about 1.0.

The agency has concluded, based on all comments received, that the assumptions of the TSC methodology concerning vehicles with unitized bodies are extreme. One manufacturer submitted an estimate of secondary weight based on its analysis of its most efficient new car designs. That analysis indicates a secondary weight factor of 0.7 (i.e., seven-tenths of a pound added for each pound of added bumper system weight). Since all of these were new designs for which secondary weight factors may be lower than for the fleet as a whole, the agency considers that this estimate most likely represents the lower bound of secondary weight factors in the current vehicle fleet. Older, existing production car designs, which would also be affected by a reduced standard, would be likely to have a secondary weight factor of 1.0 or higher. The agency has concluded that there is no adequate basis to establish a higher value than that based upon actual component weight analysis, and accordingly the agency makes use of both the .7 and 1.0 factors in the FRIA.

Only two commenters addressed the issue of the cost of secondary weight. Both commenters suggested that NHTSA's estimate of \$.72 per pound in the PRIA represents the lower bound of possible secondary weight costs, since it was based only on the cost per pound of structural components and did not include cost effects on weight dependent subsystems such as tires and brake linings. However, the agency believes that while changes such as upgrading brake linings or marginally increasing tire size to accommodate increased bumper weight will undoubtedly occur to some extent, they are impossible to quantify in terms of dollar costs on the record before the agency. Thus, the agency continues to use only the cost of major structural materials such as

cold-rolled steel and aluminum to reflect secondary weight cost more conservatively. Because of an error discovered by the agency in its original computation of the markup factor used in the PRIA, the agency has now corrected the cost of secondary weight and uses \$.60 per pound in the FRIA.

Use of consumer costs instead of manufacturer variable costs. In calculating for the FRIA the cost savings available from modified bumper requirements, NHTSA considered manufacturers' variable cost savings, but not reductions attributable to savings on dealer markup, which represent some additional potential consumer savings. Several motor vehicle manufacturers endorsed NHTSA's inclusion of variable cost savings in its analysis and projected savings of 10 to 30 percent resulting from reducing the Bumper Standard impact speed level to 2.5 mph. However, the manufacturers also commented that consumer cost (which includes dealer markup), rather than variable cost, is a more realistic determinant of the cost of bumper regulation.

The agency believes that use of consumer costs is more consistent with the requirements of the Act. Using the newly submitted cost savings estimates supplied by the auto manufacturers, and the agency's independent analysis of the reasonableness of these estimates based on the use of teardown studies, NHTSA stated cost savings in terms of consumer costs in its FRIA. The FRIA employs a sensitivity analysis to assess the effect on consumer prices of various possible bumper standard alternatives.

Finance charges. In its PRIA, NHTSA added the cost of new car finance charges to the cost of current bumper systems. While several auto industry sources saw no difficulty with consideration of finance charges from the standpoint of economic theory, certain representatives of the auto and insurance industries noted that the principal of a car loan, in addition to the interest, should have been discounted to estimate true consumer savings. The agency agrees that the approach used in the PRIA overstated consumer savings because of the failure to discount the loan principal also. In estimating new car costs in the FRIA, the agency has discounted both the principal and the interest of new car loans.

Percentage of new car purchases which are financed. One commenter argued that the agency

overestimated the percentage of vehicle purchases which are financed, and the duration of the financing obtained. However, the agency's figures on loan duration and percentage of new car sales financed are based on the latest available information from the Federal Reserve Board. The commenter based its alternate suggested percentage figure on data which included used car sales, which are less frequently financed. Moreover, to the extent that a small percentage of new car sales are not financed through consumer credit, e.g., fleet sales, these sales are nonetheless commonly financed through business borrowing at an even higher interest rate. Thus, the agency has not changed its analysis in response to this comment.

Retooling costs. Comments by one domestic manufacturer at NHTSA's public meeting on bumpers indicated that that company would incur a one time retooling cost of one million dollars if the present bumper standard were amended to reduce the test impact speed. Another major domestic manufacturer contended that this cost is irrelevant because, if it were not economically favorable to manufacturers to retool, such expenses would not be incurred. The agency has concluded that in computing overall societal costs of the regulation, this expense is relevant and should be considered. However, retooling costs have already been included in the agency's estimates of new car costs and thus are not addressed as a separate item in the FRIA.

Fuel consumption. In addition to the initial expense of purchasing a bumper system providing increased damage resistance performance, more stringent bumper standards which require heavier systems increase vehicle operating expenses. The added weight of the bumpers causes an increase in fuel consumption. As discussed above, projected weight savings from reduction of the bumper standard test impact speed to 2.5 mph would be significant, even for smaller cars. In its PRIA, NHTSA estimated that each additional pound of weight adds 1.1 gallons to the lifetime fuel consumption of a passenger vehicle. Some commenters accepted this fuel penalty figure as a reasonable approximation. One manufacturer advocated use of a higher figure. However, the source of the 1.1 gallon estimate, a major domestic auto manufacturer, revised its estimate downward to 1.0 gallons per pound, based on

testing and simulation studies on new, lighter weight cars. The agency is using this revised lower figure to be conservative in its estimates of benefits associated with the proposed alternatives to the current 5.0-mph standard.

NHTSA in its PRIA used a projected 1982 fuel cost in 1981 dollars of \$1.60 per gallon in calculating the cost of the fuel consumed in carrying additional bumper weight, with small additional real price increases (in terms of 1981 dollars) in subsequent years. The four major domestic automakers concurred in the use of this figure in comments on the notice of proposed rulemaking. However, figures in the latest Department of Energy (DOE) and Data Resources, Inc. (DRI) forecasts suggest that an estimate of \$1.28 per gallon more accurately reflects current pricing trends. Accordingly, the agency has used this figure as the 1982 average price in the FRIA.

Discount rate. For purposes of its PRIA, NHTSA used a discount rate of 10 percent in assessing the current value of future costs and benefits. This rate has been established by the Office of Management and Budget for use in Government analyses. Since, however, it is arguable that a statutory mandate to consider actual costs and benefits would require the agency to at least analyze the actual discount rate as well in reaching its conclusions, such an analysis was undertaken. See Table III-6 of the FRIA. Although one commenter suggested a lower figure, NHTSA has concluded that, given the insensitivity of net benefits to changes in the discount rate, the 10 percent rate is appropriate at this time. This figure represents a compromise between competing schools of thought as defined in economic literature, and has been used in past agency regulatory analyses. Its continued use facilitates the comparison of costs and benefits of different regulatory actions. Thus, the 10 percent figure has been retained as the basis for the discount rate used throughout the FRIA, in estimating the current value of both costs and benefits.

Lifetime distribution of accident frequency. NHTSA based its discounting in the PRIA on the assumption that accident frequency is distributed over a vehicle's lifetime, in proportion to the number of miles traveled each year by the vehicle. Car manufacturers differed on the validity of this assumption, with some contending that accident

rates are higher for older vehicles. If this were true, then the net benefits of reducing the bumper standard would be even greater than estimated by the agency in the FRIA. However, NHTSA has concluded that the evidence presented on actual distribution of accidents over vehicle lifetime is not sufficiently reliable to attempt more specific yearly estimates, because, among other things, it includes both high- and low-speed accidents and the correlation between these types of accidents has not been established. Thus, the agency continues to use its original assumption on this point.

Effect of non-bumper related design changes on repair costs. A member of the insurance industry contended that not all increases in damage-per-claim figures occurring since implementation of the bumper standard should be attributed to the standard. According to that commenter, new components, such as rectangular headlamps and one-piece plastic front-end panels, which have come into use since implementation of Federal bumper standards, have added to damage-per-claim figures used by NHTSA to assess the effect of the bumper standard. Commenters made no showing regarding the costs of the various front-end components, the extent of their use in given model years, or the frequency and extent of their damage. Further, as several auto industry commenters noted, the increased complexity of the 5.0-mph bumper system makes that system more expensive to repair or replace when damaged in an impact above its design speed of 5.0 mph. Thus, the record provides no objective basis for the agency to modify its analysis.

Value of unrepaired damage. In the PRIA, NHTSA valued the cost of unrepaired damage at the full cost to repair that damage. However, several auto manufacturers commented that such damage should be valued at some lesser figure or should not be counted at all. One manufacturer placed the figure at not more than 50 percent of the cost to repair the damage. The agency's 1979 Final Assessment placed the figure at 75 percent. NHTSA has concluded that unrepaired damage clearly imposes some cost. The value of this cost, however, would necessarily vary with the age of the car, other cumulative damage, whether or not bumper-related, and other factors. NHTSA believes that a range of 50 to 75 percent of the full cost of repair represents a reasonable balancing

of competing considerations and has used such a range to approximate the value of unrepaired damage in the FRIA.

One commenter suggested that consumer tolerance for cosmetic vehicle damage increases, and the value of such damage should therefore decrease, with vehicle age. However, the agency has no way of assessing this effect and therefore considers it too speculative to include in the FRIA. Therefore, the agency has not amended its calculations in response to this comment.

Current versus future technology. Throughout the consideration of bumper effectiveness, cost, and weight, the agency has been faced with the alternatives of relying on historical data based on the experience of previous model year vehicles, or on calculations based on present or future technologies. The difficulty of the choice is apparent. The former approach has the advantage of greater and superior empirical data, but may not fully account for the most recent advances in design or materials technology. The latter approach may more fully reflect state current and future conditions, but the absence of any empirical or field data introduces significantly greater elements of uncertainty.

Insurance industry and consumer representatives criticized the agency's analysis for relying on bumper designs used in the late 1970's instead of the best bumper technology available today. These commenters contended that state-of-the-art bumpers in use on the latest vehicle models are lighter, more efficient, and cost less than bumpers on earlier models and are more representative of bumpers which will be used in the future. An insurance industry representative and one component supplier commented that new technologies involving use of plastics could positively affect the net benefits of 5.0-mph bumpers. Motor vehicle manufacturers countered that use of a representative current bumper system as the basis for cost and weight estimates is more realistic, because it is more reflective of immediate cost/benefit impacts and because styling considerations frequently limit the use of the most efficient bumper design available.

The agency believes that analysis of the bumper regulation should be based on real world conditions and that it is unrealistic to assume that the most advanced technology will be used in all cases. While the use of alternative technologies

could affect costs and benefits if such technologies were widely adopted, no evidence has been presented that cost, styling, production or other constraints would permit universal acceptance of these new technologies. More important, even if designs more efficient in terms of costs and weight were chosen to represent 5.0-mph bumpers in the FRIA, the effect of this change on the FRIA outcome would be negated in large part by the necessary parallel assumption that bumper systems offering lower levels of protection would also be designed and implemented at the most efficient levels possible. Therefore, NHTSA has concluded that projections of bumper net benefits must continue to be based on data relating to real world bumper systems.

Insurance premium increases. Many comments submitted by insurance industry sources and others noted that insurance premiums would increase if the bumper standard impact speed were lowered from its current levels. Insurers generally concurred that the level of such collision insurance premium increase would be 10 percent if the bumper standard test impact speed were reduced to 2.5 mph. The agency has reviewed in detail the cost of increased collision damage costs and the increased administrative overhead burden that would be incurred. Based on this analysis and on the assumption that only actual cost increases would be approved by state regulatory bodies for pass through and recovery in the form of rate increases the agency can not agree that such estimates are accurate. NHTSA accounts for insurance cost increases through estimates in the FRIA of increased collision damage costs and administrative overhead.

Effect on insurance companies, bumper component suppliers, and new car dealers. The agency's October 1981 notice of proposed rulemaking requested comments on the effect which amendment of the bumper standard would have on the insurance industry and bumper component suppliers. Members of these industries did not respond to this inquiry, except with regard to the insurance premium estimates noted above. Motor vehicle manufacturers addressing this point generally concluded that effects on related industries would not be major. Although one source predicted a reduction in the dollar sales volume of bumper component parts, increased sales of replacement parts would tend

to offset to some extent the lower per unit cost of bumper replacement parts.

One industry which did claim a major interest in this proceeding was the automobile retail sales industry, as represented by the National Automobile Dealers Association. That organization pointed out the devastating effects on its membership of the recent depressed automotive retail sales market and provided data indicating the effect on car sales of price increases similar in magnitude to those resulting from the Part 581 Bumper Standard.

Consumer time and inconvenience. Several commenters addressed issues relevant to the consideration by NHTSA, as mandated by the Act, of the value of consumer time and inconvenience related damage incurred in low-speed collisions. NHTSA's PRIA incorporated a figure of \$26 per incident as the value of consumer time and inconvenience associated with assessment and repair of low-speed collision damage. Insurance industry and consumer representative commenters presented results of a survey conducted for that industry by Opinion Research Corporation which seemed to suggest that a much higher per accident value should be placed on time and inconvenience. However, NHTSA has concluded that the results of this survey do not require revision of the agency's estimates of the value of delay and inconvenience.

Commenters citing the Opinion Research survey placed values of \$150 to \$200 per incident on the delay and inconvenience resulting from low-speed accidents, in contrast to NHTSA's PRIA estimate of \$26. However, review of the survey results suggests that these estimates may include the value of repair costs to be borne by consumers, i.e., the deductible amount of the consumers' collision insurance, usually \$100, a cost accounted for elsewhere in NHTSA's analysis.

Also, the Opinion Research survey focused attention on the delay and inconvenience involved in having collision damage repaired. NHTSA's estimates are based on average time loss for all accidents, including those in which damage was minimal and/or not repaired. The survey included questions which could be accurately answered only by persons with detailed knowledge of the costs and benefits of bumper systems. Moreover, apparent biases in some of the survey questions may have inflated survey respondents' estimates

of the value of damage avoidance. When the effect of the above noted factors is accounted for, the insurance industry and consumer representative commenters' estimates and the NHTSA estimate do not differ greatly.

Some automobile industry and consumer representatives commented that the agency's estimate of \$10 per incident for the cost of alternate transportation while low-speed collision damage is repaired may be too low. A consumer organization commented that the agency underestimated the time lost at the scene of an accident and in obtaining repair estimates. It suggested that NHTSA had also understated the expense of being without a car while collision damage is repaired. It should be noted that the agency's Analysis counts savings in delay and inconvenience for all accidents, whether or not damage is actually repaired. Since damage is not always repaired, the agency's figures translate into a higher per accident savings for those accidents where repairs are actually made. Nevertheless, after consideration of the comments on these issues, the agency has now used, and has performed a sensitivity analysis using, a range of costs for time and inconvenience of \$26 to \$50 in the FRIA.

Safety issues. Insurance industry and other commenters expressed concern that reduction of the test impact speed requirements of the standard would pose a risk to vehicle safety due to increased damage to safety-related components. As evidence of the safety impact of bumper regulation, one insurance industry commenter cited a study in which it examined accident claims involving rear impacts to MY 1973 and 1974 vehicles. According to this commenter, the results of this study indicate reductions in trunk lid and taillamp damage on certain models when the bumper standard for rear bumpers was upgraded in MY 1974. This commenter also noted reductions in trunk lid, trunk latch and tailpipe damage on some models in data from NHTSA's driver survey, although the commenter concluded that the survey was of such limited scope as to preclude the drawing of significant conclusions. The commenter asserted that components of the type protected by the Bumper Standard do affect safety in that, even if their malfunction does not actually cause an accident, it increases the risk to occupants once

an accident occurs, e.g., through leaking fuel from a damaged fuel system.

Several auto industry sources commented that current bumper requirements do not provide significant safety benefits. One major domestic manufacturer cited studies conducted by Westat and Indiana University's Institute for Research in Public Safety (Docket No. 73-19, Notice 27, No. 041) in support of its assertion that only one percent of accidents are caused by safety component malfunctions which could have resulted from low-speed collision damage. This commenter contended, moreover, that the nature of these malfunctions (e.g., lamps not working) does not permit the inference that even this low incidence of contribution to accident causation is attributable to collisions, but is instead more commonly experienced as a result of maintenance neglect (e.g., failure to replace burned-out bulbs). As a result, the commenter argues that low-speed collision damage is a minuscule factor in motor vehicle safety. Another major manufacturer also commented that the bumper standard's connection to safety is tenuous, and that there is no evidence that safety would be compromised by amendment of the bumper standard requirements. Other automakers commented that a 2.5-mph bumper standard would be adequate in any event to protect vehicle safety components.

Other commenters asserted that 5.0-mph bumper requirements may in fact have a net adverse effect on vehicle safety. An auto industry trade association commented that the extra weight and rigidity of more damage resistant bumpers could adversely affect crash deformation characteristics and rates of crush and energy absorption so as to reduce potential levels of occupant protection in higher speed collisions. Another auto industry commenter argued that while 5.0-mph bumpers do not contribute significantly to safety through protection of safety components, the added weight of those bumpers necessarily reduces accident avoidance capability by adversely affecting braking and cornering performance.

Finally, the agency's own developing research into pedestrian impact protection indicates a clear possibility of conflict between affording enhanced safety protection in this area and increasing or even maintaining the current bumper standard.

After consideration of the extensive discussion of this issue in the record of this proceeding, including the Indiana University study referenced above, NHTSA has concluded both that no safety based justification exists for the current 5.0-mph bumper requirements, and that relaxation of the impact speed requirements would not compromise any known safety consideration. In the agency's judgment, a safety need for 5.0-mph bumpers has never been demonstrated, either before issuance of the FMVSS 215 and Part 581 standards or by subsequent experience. Moreover, the argument that protection of safety systems in low-speed collisions is important for purposes of vehicle crashworthiness as well as crash avoidance is not convincing in view of the fact that the only Part 581 criterion which contributes significantly to crashworthiness, i.e., the criterion relating to the fuel system, is now protected much more effectively by FMVSS 301.

NHTSA has also considered the energy management consequences of this action with respect to compliance with the applicable FMVSS requirements relating to occupant crash protection and fuel system integrity. Insurance industry commenters noted that the crash energy of a 2.5-mph collision is one quarter that of a 5.0-mph collision. Thus, it was suggested that 2.5-mph bumpers would be less effective in managing crash energy than 5.0-mph bumpers. However, a number of motor vehicle manufacturers commented that in the 30.0-mph barrier impact used to determine compliance with various crashworthiness FMVSS, the vehicle bumper absorbs only a small percentage of the crash energy, generally less than 5 percent. Moreover, some manufacturers commented that reduction of the bumper test impact speed requirements would permit removal of space consuming and aggressive energy absorbers and stiff frame rails which may actually inhibit design of vehicles for efficient high-speed energy management. Also, reduction of bumper test impact requirements could lead to reduced aggressivity of the impacting vehicle in side collisions.

After review of comments received, NHTSA has concluded that reduction of bumper test impact requirements would not have a negative effect on high-speed crash energy management. The amount of energy generated in a 5.0-mph barrier impact is less than three percent of that

generated in a 30.0-mph barrier crash. The energy generated in a 2.5-mph barrier impact is one percent of 30.0-mph crash energy. Thus, although 5.0-mph bumpers may absorb more energy than 2.5-mph bumpers, the difference is negligible in a 30.0-mph barrier impact. Moreover, as suggested by commenters, the 5.0-mph bumper requirements may inhibit efficient vehicle energy management design. NHTSA has concluded that 5.0-mph bumpers make no significant contribution to occupant crash protection or to protection of fuel system components which may be damaged in high-speed crashes.

Thus, the agency's action does not conflict with any existing safety standards.

Other Issues

Accounting for vehicle size in testing. NHTSA requested that commenters consider whether the test procedure adequately accounts for vehicle size differences. While some commenters suggested that car size is a factor in damage resistance, those commenters expressing an opinion on the issue commented that the existing test requirements adequately account for these effects. Those requirements adjust test pendulum weight to the mass of the vehicle tested. Commenters also noted that size and weight differences among cars are decreasing as downsizing progresses. Thus, change in the test procedures to account for vehicle size differences does not appear to be warranted.

Manual repositioning of bumper system components during testing. Several commenters suggested the desirability of allowing manual repositioning of bumper or shielding-panel components during testing. These commenters suggested that such a procedure would reduce costs, increase design flexibility, promote the use of new technologies, and reduce the subjectivity now inherent in the evaluation of shielding-panel damage. However, some auto manufacturers also stated that eliminating the Phase II damage resistance requirements would alleviate much of the need for manual repositioning. Since the Phase II criteria are being replaced by Phase I criteria, and manual repositioning might introduce uncertainties into the test procedure, the agency has decided not to permit manual repositioning.

Bumper height. On the issue of bumper height, several auto manufacturers commented that the

height requirements of the standard account for a substantial portion of the benefits of the standard. One automaker referred to matching heights as the single most important requirement of the standard. A major insurer, however, contended that a matching requirement associated with an "ineffective" impact speed of 2.5 mph would be meaningless. This commenter also contended that only 49 percent of reported accidents are bumper-to-bumper accidents.

Of course, a significant proportion of reported accidents would be side impacts, rollovers, and single vehicle collisions rather than bumper-to-bumper impacts. Therefore, it does not necessarily follow that damage incurred in non-bumper-to-bumper accidents is attributable to bumper mismatch. Moreover, unreported accidents would be expected to include a higher proportion of bumper-to-bumper accidents than would reported accidents because bumper-to-bumper contact would prevent significant damage in a number of cases. Thus, a number of bumper-to-bumper accidents would not appear in the figures for reported accidents.

Finally, the agency notes that the height of some vehicle structural components may be determined by the height of the bumper. To the degree that uniform side structural members, additional levels of protection may result in side impact collisions from matching of bumpers and frame rails. NHTSA concludes that the height requirement is a useful component of the bumper regulation. Height standardization is maintained under the amendment announced in this notice.

One commenter advocated lowering the prescribed bumper height to less than 16 inches, the current low bound for pendulum testing. This commenter contended that low bumpers would optimize pedestrian protection characteristics, minimize aerodynamic drag, and reduce injuries in side impacts. NHTSA will consider the contribution of bumper height in connection with ongoing research in the areas of pedestrian protection and side impacts. However, until such time as the effects of bumper height in these areas can be fully evaluated, the very high transition cost of converting existing vehicle designs and the desirability of consistency with bumper heights of the existing vehicle fleet makes it preferable that the present height requirements be maintained.

Effective date. Some automobile manufacturers commented on the need for expeditious action to amend the standard. One manufacturer noted that final action by March 1982 would permit bumper system modifications to be made in time for introduction of model year 1983 vehicles. Another commented on the long leadtimes necessary for introduction of product changes. Yet another stated that an effective date for bumper standard amendments in the near future would permit incorporation of bumper system changes in a new vehicle model currently in the design stage. In view of these considerations, and because this action relieves a restriction, NHTSA has determined that good cause exists to make this amendment effective 45 days from the date of publication of this notice in the *Federal Register*.

Requirements for Analyses

NHTSA has determined that this proceeding involves a major rule within the meaning of Section 1, paragraph (b)(1), of Executive Order 12291 in that it is likely to result in an annual effect on the economy of \$100 million or more. The agency estimates that current bumper requirements add between \$140 to \$200 to the cost of a new car compared to the cost of a car with unregulated bumpers. The reduction of test impact speed requirements for each of the roughly 11 million vehicles expected to be sold in this country annually is likely to result in an impact on the economy far exceeding \$100 million. For this same reason, this action is considered significant for purposes of Department of Transportation procedures for internal review of regulatory actions. The agency's FRIA for this action has been placed in the public docket. Copies may be obtained by contacting the Docket Section, Room 5108, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

Pursuant to the Regulatory Flexibility Act, the agency has considered in its FRIA the impact of this rulemaking action on small entities. The agency certifies that this action will not have a significant economic impact on a substantial number of small entities. Therefore, a regulatory flexibility analysis is not required for this action. The agency has concluded that few, if any, manufacturers of motor vehicles and bumper

components or vehicle insurers are small entities. New car dealers will not be significantly affected because this action is unlikely to significantly affect new car sales levels for individual dealerships. To the extent that such sales may be affected, the effect would be positive. While increased car collision damage repairs may result from this action, the impact on individual repair shops is not expected to be significant. Again, the effect would be positive.

The economic effects of this action on small organizations and governmental units will generally be the same as those on the general public. As purchasers of new cars, these organizations and units will experience the same increase in net benefits. While this action could result in a minor increase in police time spent at the scene of some low-speed accidents, this effect is not expected to be significant.

In developing this final rule, NHTSA considered the bumper standard promulgated by the International Standards Organization and adopted by the ECE. However, the agency found that standard to be inappropriate for use in this

country since it does not adequately deal with consumer cost savings considerations as required by the Act.

NHTSA has prepared an Environmental Assessment of the likely environmental consequences of this proposal. This Assessment has been placed in the public rulemaking docket (Docket 73-19; Notice 27, No. 004). Based on this Assessment, the agency has concluded that this action will not have a significant effect on the human environment and that, for this reason, an Environmental Impact Statement will not be prepared for this action.

Issued on May 14, 1982.

Raymond A. Peck, Jr.
Administrator

47 F.R. 21820
May 20, 1982

Appendix

The following is a summary of the more major comments submitted in response to the notice of proposed rulemaking and discussed in more general terms in the preamble of this notice. This summary is organized in broad terms according to the interest groups from which the comments were received. Responses to these comments are set forth in the preamble to the final rule and in the FRIA.

Insurance Industry and Consumer Representative Comments

In commenting on the issue of low-speed damage frequency, insurance industry and consumer representatives criticized the Westat survey on a number of grounds. The Insurance Institute for Highway Safety (IIHS) and Consumers Union contended that the survey understates damage frequency due to memory weaknesses on the part of survey respondents. IIHS also noted that nonprincipal drivers were not surveyed directly and cited discrepancies between the original Westat survey and a follow-up survey emphasizing operators of later model vehicles. Allstate Insurance Company contended that the Westat survey cannot be used to make judgments about the effects of changing the bumper standard on the frequency of damage to safety components because the sample size is too limited, and that the survey is not representative because it covers only unreported damage. Allstate advocated use of a higher estimate, although not as high as that suggested by the Ford survey results. IIHS also suggested that use of the Westat survey improperly accounts for accidents reported to police. State Farm Mutual Automobile Insurance Company contended that the study understates the number of low-speed impacts due to the probable existence of impacts with parked vehicles, and of accidents not reported to the person interviewed.

On the issue of bumper effectiveness, IIHS and the Highway Loss Data Institute (HLDI) supplied results of laboratory tests on current vehicles not required to meet the Part 581 standard, *i.e.*, pickup trucks and multipurpose passenger vehicles. These commenters reported substantially poorer bumper performance on these vehicles, which, according to these

commenters, would comply with a 2.5-mph bumper requirement.

IIHS also argued that vehicle size is a major determinant of the amount and frequency of crash-related property damage. Thus, IIHS contended NHTSA's assessment of bumper effectiveness is biased in favor of older, unregulated vehicles because the more recent vehicle mix includes greater numbers of more damage prone smaller vehicles. Moreover, IIHS argued, imports are more frequently involved in property damage accidents than are domestically produced vehicles, further biasing the analysis against later model years which include a larger percentage of imported vehicles.

The American Insurance Association and State Farm contended that the discount rate of 10 percent applied by the agency to determine the present value of future expenditures is too high. Since bumpers represent an investment which displaces other consumption, these commenters argued that a more accurate discount rate would be 4 percent. Allstate commented that the discounting factor should be applied to inflated costs rather than current costs.

On the subject of delay and inconvenience, the Center for Auto Safety (CFAS) placed the cost of a rental vehicle, which may be required while low-speed collision damage is repaired, at \$24 to \$30 per day. CFAS estimated that consumers use 1.6 gallons of gasoline in obtaining a single damage repair estimate and that each such estimate now costs \$35 on the average. CFAS also contended that the agency underestimated the lost lost at the scene of an accident and in obtaining repair estimates.

An insurance industry representative submitted data from a public opinion poll which, according to the commenter, demonstrates overwhelming public support for the 5.0-mph bumper standard. The commenter also asserted that this poll indicates people are willing to pay for the higher levels of protection provided by the 5.0-mph bumper standard. CFAS also argued that the public supports the 5.0-mph bumper requirements.

The insurance industry argued that ECE Regulation No. 42 is irrelevant and inappropriate to requirements of the Cost Savings Act, primarily because it does not address the issue of protection against economic damage. According to the insurance industry, the ECE requirements

amount to merely a weaker version of FMVSS 215. Moreover, this source contended the ECE standard focuses in part on design rather than performance characteristics, and thus is not in accordance with United States statutory requirements for issuance of performance standards.

Liberty Mutual Insurance Company commented that the current Part 581 requirements do not adequately account for vehicle dive, which can contribute to bumper underride in accident situations. Presumably, dive-induced mismatch damage would be increased under ECE requirements.

On the issue of new technologies, IIHS argued that new materials, *i.e.*, polycarbonate plastics, which could significantly reduce the weight of bumpers meeting current 5.0-mph requirements are available at this time. State Farm advocated the possible use of sacrificial components, *i.e.*, components which must be adjusted or replaced after a collision, as a means of reducing bumper cost and weight.

Auto Industry Comments

In addressing the question on the issue of low speed collision frequency, General Motors Corporation and Ford Motor Company commented that studies conducted by Ford overstate damage frequency, principally due to their emphasis on vehicles used in urban areas. These commenters suggested that the Westat survey is a more reliable source of data because it is more current and is based on a more representative sampling system.

Chrysler Corporation, American Motors Corporation, and Volkswagen of America, Inc. commented that neither the Ford nor West data provide an adequate means of assessing low-speed collision frequency. These commenters suggested that use of crash recorders or other controlled tests is necessary to generate data.

In questioning the value of MY-1973 bumpers in assessing 2.5-mph bumper effectiveness, several commenters pointed out that MY-1973 bumpers were not subject to a pendulum impact test and thus were not required to be of a uniform height. Commenters noted that MY-1973 rear bumpers were essentially the same as MY-1972 bumpers, but with stronger mounting brackets. This comment is consistent with State Farm's comment

that its research revealed no difference in performance between MY-1973 and 1972 rear bumpers. Some commenters also concluded that new 2.5-mph bumpers would perform better in the current vehicle mix than did MY-1973 bumpers in previous years, due to the increased uniformity of current bumper designs. General Motors, Ford, and Chrysler joined in attacking the relevance of laboratory tests as a means of assessing the relative performance of bumpers, stating that such tests have never been correlated to real world conditions.

American Motors suggested that NHTSA consider the European experience with 2.5-mph bumpers under ECE Regulation No. 42. However, General Motors commented that its German subsidiary reported an absence of field data on the effectiveness of 2.5-mph bumpers in Europe. Moreover, General Motors contended that the European bumper standard is purely a safety standard and that bumpers designed to meet that standard would not be representative of future American 2.5-mph designs. In General Motors' opinion, the estimates used in NHTSA's 1979 Final Assessment provide the best available information on bumper effectiveness at alternative design speeds.

Several auto industry sources argued that unregulated bumpers produced in the future would provide greater levels of damage resistance performance than pre-standard bumpers. The factor most commonly cited in support of this contention was that consumer expectations would require that bumpers provide higher levels of performance. Insurance cost considerations, international harmonization, and experience in designing improved bumpers were also cited as contributing to the prospects for improved performance from future unregulated bumpers. Certain auto industry sources estimated that unregulated bumpers would exceed 1.5-mph performance and, at least initially, provide performance approximating that available under a 2.5-mph Phase I standard or ECE Regulation No. 42.

In discussions of bumper cost and weight savings from use of 2.5-mph bumpers, estimates of overall weight savings ranged from 8 lbs. for Volkswagen to over 38 lbs. for Volvo of America Corporation. Ford reported weight savings of 34 lbs. for its European Escort model compared to

its American counterpart as a result of differing bumper requirements. Associated cost savings of roughly \$35 were estimated by several manufacturers.

On the related issue of secondary weight, a recent General Motors analysis of seventeen late model front-wheel drive vehicles produced a secondary weight factor of .72. General Motors stated that this factor was used in the design process of its recent "X" and "J" car models. Toyota Motor Company also estimated a secondary weight factor of .7 for its current models. Renault agreed that the correct secondary weight factor is greater than .5. Comments received from Ford, Chrysler, and American Motors all contended that a secondary weight factor of 1.0 would be appropriate for NHTSA's analysis.

The fuel penalty factor of 1.1 gallons of fuel consumed for each additional pound of bumper weight, used in NHTSA's Preliminary Regulatory Impact Analysis, was based on testimony presented by General Motors before Congress. General Motors, in its comments on the notice of proposed rulemaking on bumper standard amendments, revised its estimate downward to 1.0 gallon of fuel per pound of vehicle weight. However, several other motor vehicle manufacturers commented that the 1.1 gallon figure is reasonable. Chrysler noted that a higher figure could be used.

Chrysler estimated the increased cost to repair 5.0-mph bumpers as compared to 2.5-mph bumpers at between \$70 and \$90. BMW of North America, Inc. cited an analysis prepared by a West German technical institute which found that at impact speeds of 18 kph (approximately 11 mph) and higher, repair costs for American-made bumpers are greater than for European bumpers due to more expensive bumper shock absorbers and body components. BMW also noted a West German insurance study reporting that the great majority of all collisions occur at speeds above 11 kph.

General Motors and Ford commented that NHTSA's figure for the hourly value of lost time is too high, General Motors contending that the figure should be somewhere between the average hourly wage rate and the minimum wage. Ford argued that a figure of \$3.50, roughly half the average hourly earnings figure, would be more accurate. This figure is consistent with a Consumer's Research report which concluded that

commuters are willing to pay 42 percent of an hour's wage to save one hour of travel time. Regarding the cost of alternate transportation while collision damage is being repaired, Ford concurred in the agency's estimate of \$10 per incident. Volkswagen commented that the figure seemed too low, and General Motors suggested that the agency consider the actual cost of rental vehicles.

Chrysler expressed the opinion that insurance premiums would decrease due to a reduction in bumper repair costs if the performance requirements of the standard were lowered. Ford commented that insurance industry premium discounts and surcharges based on vehicle damage claims experience provide a significant marketplace incentive to manufacturers to design vehicles providing better damage resistance performance.

Daimler-Benz AG, Renault, and Peugeot S.A. cited cost and consistency considerations as the basis for their positions in support of the ECE standard. Other commenters suggested that cost savings, *e.g.*, savings in tooling and testing costs, would result from harmonization. Renault estimated weight savings of 14-15 kg. for its vehicles equipped with bumpers designed to meet the ECE standard.

Volkswagen and American Motors discussed at length their position that the fixed-barrier impact test should be dropped from the standard. ECE Regulation No. 42 does not require a fixed-barrier test. According to Volkswagen, elimination of the barrier test would reduce testing costs, promote international harmonization, and make the standard more equitable. Volkswagen criticized the barrier test as unreliable, unsophisticated, and adding nothing to the standard. American Motors contended that the pendulum test alone would be sufficient, since it assures height standardization and proper bumper geometry to minimize override, and the versatile positioning of the pendulum permits testing of the entire bumper system. American Motors suggested that the pendulum test could be run with the vehicle idling to provide a test relevant to dynamic situations. Volvo suggested the alternative of employing the ECE test procedure with damage criteria taken from the Part 581 standard.

Volkswagen and BL Technology Ltd. pointed out that the ECE standard provides for pendulum

impact at a single height rather than within a height range as is the case with the Part 581 standard. BL Technology contended that the ECE height requirement should be adopted in this country to promote harmonization and reduce costs. BL Technology also noted that the single height requirement permits reduced vertical bumper width thereby improving engine cooling. However, Volkswagen argued there is little difference between the European and United States' height requirements in terms of benefits and that the Part 581 requirement should be retained to avoid possible mismatch with vehicles already in use.

On the subject of Phase I versus Phase II damage criteria Ford and General Motors questioned the cost-effectiveness of the Phase II requirements. General Motors argued that NHTSA's analysis overstates the benefits of the Phase II standard because the agency overestimates the effectiveness of Phase II bumpers in impacts at speeds of 5.0 mph or below. General Motors added that NHTSA must consider the 5 lbs. of additional weight and resulting \$6 additional fuel cost imposed by the Phase II requirements. Information supplied by Volvo and the Bureau of Labor statistics suggests that initial consumer costs of between \$10 and \$15 result from the Phase II requirements. Ford contended that no true Phase I bumpers have ever been produced because model year 1979 vehicles represented a transition period between FMVSS 215 and Part 581, Phase II.

Ford contended that the pendulum test is not appropriate for assessing damage resistance properties of the bumper itself due to its concentration of force in particular locations. This test, in combination with the Phase II criteria may, according to Ford, require use of expensive energy absorbers even if the test impact speed were lowered to 2.5 mph. Although Davidson Rubber Division commented that the Phase II criteria posed no problem for soft face systems, that manufacturer at the same time advocated reduction of the pendulum impact speed to 2.5 mph. BL Technology and General Motors commented that return to Phase I criteria would encourage design innovation and the use of new, lighter weight materials. Mitsubishi Motors Corporation favored the Phase I criteria because bumper deformation would improve the crash energy management characteristics of the bumper system.

Ford also noted objectivity problems in evaluating bumper damage under the Phase II criteria. Finally, Ford argued that the increased use of rubber and polymeric bumper materials has changed consumer perceptions and reduced the visibility of and concern about minor dents and similar damage which was inherent in the use of chrome-plated bumpers.

Two auto manufacturers advocated dropping not only the damage criteria applicable to the bumper system itself, but all criteria limiting damage to the exterior surfaces of the vehicle. Saab-Scania of America, Inc. made this suggestion in the context of a possible decision to retain the 5.0-mph test impact speed requirement. Toyota's comment noted vehicle cost and weight could be reduced by eliminating the exterior surface protection requirements.

Commenters addressing the issue differed on the extent of manual repositioning which should be permitted. Ford recommended permitting manual repositioning which could be performed without special equipment or experience. Volkswagen favored manual repositioning without tools, while Chrysler suggested that manual repositioning without "special" tools be permitted.

On the question of new technologies, Ford and Volkswagen commented that relaxation of the bumper standard requirements would permit use of fiberglass bumpers, plastic face bars, rubber mountings, and ultrahigh strength steel components which could result in cost and weight savings, increased styling flexibility and improved aerodynamic characteristics. Davidson Rubber offered compressible plastics, i.e., foam or honeycomb materials, as examples of materials which could be used if the standard requirements were lowered. C&F Stamping Company, Inc. cited plastics and single-unit bumper systems. American Motors commented that return to Phase I would increase usage of SMC Components. Chrysler noted the potential for cost and weight savings from ultrahigh strength steel if Phase II criteria were eliminated. One component supplier, Molnar Industries, Inc. noted the availability of fiber reinforced plastic bumpers which it contended may make lowering the bumper standard requirements unnecessary.

47 F.R. 21820

May 20, 1982

PREAMBLE TO AN AMENDMENT TO PART 581

Bumper Standard

[Docket No. 73-19; Notice 32]

ACTION: Interpretive amendment.

SUMMARY: The Part 581 Bumper Standard specifies that certain equipment be removed from a vehicle before testing. This notice clarifies the wording of a May 20, 1982, amendment to make it clear that (1) no change was intended in the requirement as it related to trailer hitches and license plate brackets, i.e., that all trailer hitches and license plate brackets are removed, whether or not they are optional equipment, and (2) all running lights and fog lamps which are optional equipment should be removed, whether or not they are mounted on the bumper face bar.

EFFECTIVE DATE: September 23, 1983.

SUPPLEMENTARY INFORMATION: Section 581.6(a)(5) of the Bumper Standard specifies that certain equipment be removed from a vehicle before testing. Prior to the most recent amendment, the section specified that trailer hitches and license plate brackets be removed from the vehicle. The standard was amended in a notice published in the Federal Register (46 FR 48262) on May 20, 1982, which, among other things, expanded the specified equipment that is removed to include headlamp washers and certain optional equipment, i.e., running lights, fog lamps, and equipment mounted on the bumper face bar. The section was revised to read:

Trailer hitches, license plate brackets, running lights, fog lamps, other optional equipment mounted on the bumper face bar and headlamp washers are removed from the vehicle.

The amended section might be read to be more restrictive than the former section as it relates to trailer hitches and license plate brackets, i.e., that only trailer hitches and license plate brackets which are optional equipment must be removed. This notice clarifies the wording of that amendment to make it clear that no change was intended in the requirement

as to these types of equipment. Thus, this notice makes it clear that all trailer hitches and license brackets must be removed. The agency neither proposed nor intended any change in the requirement as it relates to those types of equipment.

Another possible question of interpretation under the amended section is whether all running lights and fog lamps which are optional equipment should be removed, or only those which are mounted on the bumper face bar. This notice clarifies the wording of the amendment to make it clear that running lights and fog lamps which are optional equipment should be removed, whether or not they are mounted on the bumper face bar.

This amendment is an interpretive amendment which does not change the substantive requirements of the Bumper Standard in any respect. Accordingly, it is found for good cause shown that notice and comment are unnecessary and that an immediate effective date is in the public interest.

In consideration of the foregoing, 49 CFR Part 581 is amended as follows:

§581.6 [Amended]

Section 581.6(a)(5) is revised to read:

(a) * * *

(5) Trailer hitches, license plate brackets, and headlamp washers are removed from the vehicle. Running lights, fog lamps, and equipment mounted on the bumper face bar are removed from the vehicle if they are optional equipment.

Issued on September 19, 1983.

Diane K. Steed
Deputy Administrator

48 FR 43331
September 23, 1983

PART 581—BUMPER STANDARD

(Docket No. 74-11; Notice 12; Docket No. 73-19; Notice 9)

§ 581.1 Scope. This standard establishes requirements for the impact resistance of vehicles in low speed front and rear collisions.

§ 581.2 Purpose. The purpose of this standard is to reduce physical damage to the front and rear ends of a passenger motor vehicle from low speed collisions.

§ 581.3 Application. This standard applies to passenger motor vehicles other than multipurpose passenger vehicles.

§ 581.4 Definitions. All terms defined in the Motor Vehicle Information and Cost Savings Act, P.L. 92-513, 15 U.S.C. 1901-1991, are used as defined therein.

“Bumper face bar” means any component of the bumper system that contacts the impact ridge of the pendulum test device.

§ 581.5 Requirements.

(a) [Each vehicle shall meet the damage criteria of §§ 581.5(c) (1) through 581.5 (c) (9) when impacted by a pendulum-type test device in accordance with the procedures of § 581.7(b), under the conditions of § 581.6, at an impact speed of 1.5 m.p.h., and when impacted by a pendulum-type test device in accordance with the procedures of § 581.7(a) at 2.5 m.p.h., followed by an impact into a fixed collision barrier that is perpendicular to the line of travel of the vehicle, while traveling longitudinally forward, then longitudinally rearward, under the conditions of § 581.6, at 2.5 m.p.h.” (47 F.R. 2182—May 20, 1982. Effective: July 4, 1982)]

(b) [Reserved.]

(c) Protective criteria.

(1) Each lamp or reflective device except license plate lamps shall be free of cracks and shall comply with applicable visibility requirements of S4.3.1.1 of Standard No. 108 (§ 571.108 of this part). The aim of each headlamp shall be adjustable to within the beam aim inspection limits specified in Table 2 of SAE Recommended Practice J599b, July 1970, measured with a mechanical aimer conforming to the requirements of SAE Standard J602a, July 1970.

(2) The vehicle's hood, trunk, and doors shall operate in the normal manner.

(3) The vehicle's fuel and cooling systems shall have no leaks or constricted fluid passages and all sealing devices and caps shall operate in the normal manner.

(4) The vehicles' exhaust system shall have no leaks or constrictions.

(5) The vehicle's propulsion, suspension, steering, and braking systems shall remain in adjustment and shall operate in the normal manner.

(6) A pressure vessel used to absorb impact energy in an exterior protection system by the accumulation of gas pressure or hydraulic pressure shall not suffer loss of gas or fluid accompanied by separation of fragments from the vessel.

(7) The vehicle shall not touch the test device, except on the impact ridge shown in Figures 1 and 2, with a force that exceeds 2000 pounds on the combined surfaces of Planes A and B of the test device.

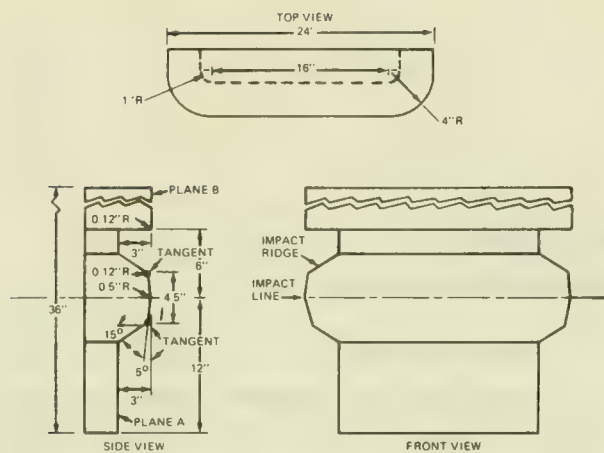


FIGURE 1

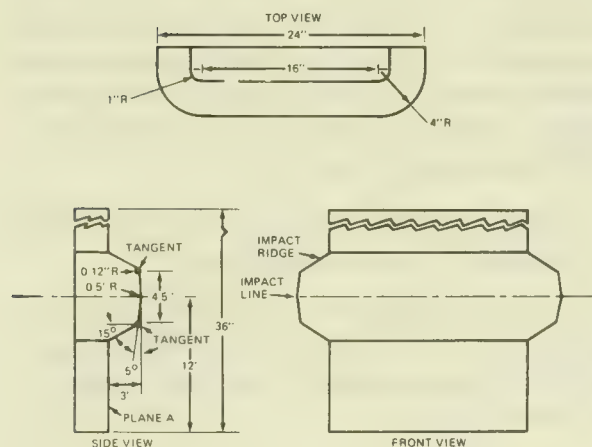


FIGURE 2

(11) Reserved.

§ 581.6 Conditions. The vehicle shall meet the requirements of § 581.5 under the following conditions:

(a) General.

(1) The vehicle is at unloaded vehicle weight.

(2) The front wheels are in the straight ahead position.

(3) Tires are inflated to the vehicle manufacturer's recommended pressure for the specified loading condition.

(4) Brakes are disengaged and the transmission is in neutral.

(5) [Trailer hitches, license plate brackets, and headlamp washers are removed from the vehicle. Running lights, fog lamps, and equipment mounted on the bumper face bar are removed from the vehicle if they are optional equipment. (48 F.R. 43331—September 23, 1983. Effective: September 23, 1983)]

(8) The exterior surfaces shall have no separations of surface materials, paint, polymeric coatings, or other covering materials from the surface to which they are bonded, and no permanent deviations from their original contours 30 minutes after completion of each pendulum and barrier impact, except where such damage occurs to the bumper face bar and the components and associated fasteners that directly attach the bumper face bar to the chassis frame.

(9) Except as provided in § 581.5(c) (8), there shall be no breakage or release of fasteners or joints.

(10) Reserved.

(b) *Pendulum test conditions.* The following conditions apply to the pendulum test procedures of § 581.7(a) and § 581.7(b):

(1) The test device consists of a block with one side contoured as specified in Figure 1 and Figure 2 with the impact ridge made of A1S1 4130 steel hardened to 34 Rockwell "C." The impact ridge and the surfaces in Planes A and B of the test device are finished with a surface roughness of 32 as specified by SAE Recommended Practice J449A, June 1963. From the point of release of the device until the onset of rebound, the pendulum suspension system holds Plane A vertical, with the arc described by any point on the impact line lying in a vertical plane

(for § 581.7(a), longitudinal; for § 581.7(b), at an angle of 30° to a vertical longitudinal plane) and having a constant radius of not less than 11 feet.

(2) With Plane A vertical, the impact line shown in Figures 1 and 2 is horizontal at the same height as the test device's center of percussion.

(3) The effective impacting mass of the test device is equal to the mass of the tested vehicle.

(4) When impacted by the test device, the vehicle is at rest on a level rigid concrete surface.

(c) Barrier Test Condition. At the onset of a barrier impact, the vehicle's engine is operating at idling speed in accordance with the manufacturer's specification. Vehicle systems that are not necessary to the movement of the vehicle are not operating during impact.

§ 581.7 Test Procedures.

(a) Longitudinal Impact Test Procedures.

(1) Impact the vehicle's front surface and its rear surface two times each with the impact line at any height from 16 to 20 inches, inclusive, in accordance with the following procedure.

(2) For impacts at a height of 20 inches, place the test device shown in Figure 1 so that Plane A is vertical and the impact line is horizontal at the specified height.

(3) For impacts at a height between 20 inches and 16 inches, place the test device shown in Figure 2 so that Plane A is vertical and the impact line is horizontal at a height within the range.

(4) For each impact, position the test device so that the impact line is at least 2 inches apart in vertical direction from its position in any prior impact, unless the midpoint of the impact line with respect to the vehicle is to be more than 12 inches apart laterally from its position in any prior impact.

(5) For each impact, align the vehicle so that it touches, but does not move, the test device, with the vehicle's longitudinal centerline perpendicular to the plane that includes Plane A of the test device and with the test device in-board of the vehicle corner test positions specified in § 581.7(b).

(6) Move the test device away from the vehicle, then release it to impact the vehicle.

(7) Perform the impacts at intervals of not less than 30 minutes.

(b) Corner impact test procedure.

(1) Impact a front corner and a rear corner of the vehicle once each with the impact line at a height of 20 inches and impact the other front corner and the other rear corner once each with the impact line at any height from 16 to 20 inches, inclusive, in accordance with the following procedure.

(2) For an impact at a height of 20 inches, place the test device shown in Figure 1 so that Plane A is vertical and the impact line is horizontal at the specified height.

(3) For an impact at a height between 16 inches and 20 inches, place the test device shown in Figure 2 so that Plane A is vertical and the impact line is horizontal at a height within the range.

(4) Align the vehicle so that a vehicle corner touches, but does not move, the lateral center of the test device with Plane A of the test device forming an angle of 60 degrees with a vertical longitudinal plane.

(5) Move the test device away from the vehicle, then release it to impact the vehicle.

(6) Perform the impacts at intervals of not less than 30 minutes.

**41 F.R. 9346
March 4, 1976**

PREAMBLE TO PART 582—INSURANCE COST INFORMATION REGULATION**(Docket 74-40; Notice 2)**

This notice establishes an insurance cost information regulation pursuant to the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1901 *et seq.*). The regulation is based upon a notice of proposed rulemaking published November 4, 1974 (39 F.R. 38912) and comments submitted in response to the notice.

The regulation will require automobile dealers to distribute to prospective purchasers information which compares differences in insurance costs for different makes and models of passenger motor vehicles based upon differences in their damage susceptibility and crashworthiness. In the absence of insurance cost information that reflects damageability and crashworthiness, this rule does not, at the present time, have an effect on automobile dealers. Damage susceptibility and crashworthiness studies currently being conducted by the NHTSA are expected to influence the insurance rate structure by providing data which will enable the insurance industry to take these factors into account. As this occurs, the NHTSA will prepare comparative indices for the dealers to distribute to prospective purchasers.

Several comments on the proposed rulemaking discussed the merits of the Motor Vehicle Information and Cost Savings Act and are therefore beyond the scope of this rulemaking. Other comments offered methods for performing the damage susceptibility and crashworthiness studies. These comments have been forwarded to the technical staff performing the studies. Two comments suggested minor changes in the text of the regulation for clarity and to make the proposed regulation more consistent with the purposes of the Act. These suggestions have been adopted

in the final regulation. Their effect is that the insurance cost information disseminated by the dealers would be in the form of comparative indices, based on differences in damage susceptibility and crashworthiness, rather than simply the insurance premium rate which is determined by many factors.

One comment expressed the view that providing this information to consumers within 30 days after its publication in the *Federal Register* was an excessive burden upon the dealers. The NHTSA does not believe that sufficient justification for this position has been made in light of the need to provide the information to the consumer in time for it to be of use to him in purchasing an automobile.

Therefore, a new Part 582, *Insurance Cost Information*, is added in Chapter V, Title 49, Code of Federal Regulations, to read as set forth below.

Effective date: Although the final rule is effective February 1, 1975, as specified in the Cost Savings Act, the dates when automobile dealers will be required to distribute insurance cost information are dependent upon NHTSA progress in developing such information and will be published at a later date in the *Federal Register*.

(Sec. 201(c), P. L. 92-513, 86 Stat. 947 (15 U.S.C. 1941(e)); delegation of authority at 49 CFR 1.51).

Issued on January 31, 1975.

James B. Gregory
Administrator

40 F.R. 4918
February 3, 1975

PART 582—INSURANCE COST INFORMATION REGULATIONS

§ 582.1 Scope. This part requires automobile dealers to make available to prospective purchasers information reflecting differences in insurance costs for different makes and models of passenger motor vehicles based upon differences in damage susceptibility and crashworthiness, pursuant to section 201(e) of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1941(e)), herein "the Cost Savings Act."

§ 582.2 Purpose. The purpose of this part is to enable prospective purchasers to compare differences in auto insurance costs for the various makes and models of passenger motor vehicles based upon differences in damage susceptibility and crashworthiness, and to realize any savings in collision insurance resulting from differences in damageability, and any savings in medical payment insurance resulting from differences in crashworthiness.

§ 582.3 Definitions.

(a) *Statutory definitions.* All terms used in this part which are defined in section 2 of the Cost Savings Act are used as so defined.

(b) *Definitions used in this part.*

(1) "Automobile dealer" means any person who engages in the retail sale of new or used automobiles as a trade or business.

(2) "Collision insurance" means insurance that reimburses the insured party for physical damage to his property resulting from automobile accidents.

(3) "Insurance cost" means the insurance premium rate, as expressed in appropriate indices, for collision and medical payment, including personal injury protection in no-fault states.

(4) "Medical payment insurance" means insurance that reimburses the insured party for medical expenses sustained by himself, his family, and his passengers in automobile accidents.

§ 582.4 Requirements.

(a) Each automobile dealer shall provide the insurance cost information specified in § 582.5 for examination by prospective purchasers at each location where he offers vehicles for sale.

(b) The information shall be provided without charge and in sufficient quantity to have it available for retention by prospective purchasers, within 30 days after its publication in the *Federal Register*.

(c) The information shall be in English and, if a significant portion of the prospective purchasers do not speak English, in the non-English language most widely spoken by prospective purchasers.

§ 582.5 Insurance cost information form.

The insurance cost information provided pursuant to section 582.4 shall be presented as follows: [Form to be specified].

40 F.R. 4918
February 3, 1975

PREAMBLE TO PART 585—AUTOMATIC RESTRAINT PHASE-IN REPORTING REQUIREMENTS

(Docket No. 74-14; Notice 43)

ACTION: Final rule.

SUMMARY: On April 12, 1985, NHTSA issued a notice proposing a number of amendments to Standard No. 208, *Occupant Crash Protection*. Based on its analysis of the comments received in response to that notice, the agency has decided to take the following actions: retain the oblique crash test for automatic restraint equipped cars, adopt some New Car Assessment Program test procedures for use in the standard's crash tests, provide in the standard for a due care defense with respect to the automatic restraint requirement, and require the dynamic testing of manual lap/shoulder belts in passenger cars. This notice also creates a new Part 585 that sets reporting requirements regarding compliance with the automatic restraint phase-in requirements of the standard.

EFFECTIVE DATE: The amendments made by this notice will take effect on May 5, 1986, except the requirement for dynamic testing of manual safety belts in passenger cars will go into effect on September 1, 1989, if the automatic restraint requirement is rescinded.

SUPPLEMENTARY INFORMATION:

Background

On July 11, 1984 (49 FR 28962), the Secretary of Transportation issued a final rule requiring automatic occupant protection in all passenger cars. The rule is based on a phased-in schedule beginning on September 1, 1986, with full implementation being required by September 1, 1989. However, if before

April 1, 1989, two-thirds of the population of the United States are covered by effective state mandatory safety belt use laws (MULs) meeting specified criteria, the automatic restraint requirement will be rescinded.

More specifically, the rule requires:

- Front outboard seating positions in passenger cars manufactured on or after September 1, 1986, for sale in the United States, will have to be equipped with automatic restraints based on the following schedule:

- Ten percent of all cars manufactured on or after September 1, 1986.
- Twenty-five percent of all cars manufactured on or after September 1, 1987.
- Forty percent of all cars manufactured on or after September 1, 1988.
- One hundred percent of all cars manufactured on or after September 1, 1989.

- During the phase-in period, each car that is manufactured with a system that provides automatic protection to the driver without the use of safety belts and automatic protection of any sort to the passenger will be given an extra credit equal to one-half car toward meeting the percentage requirement. In addition, each car which provides non-belt automatic protection solely to the driver will be given a one vehicle credit.

- The requirement for automatic restraints will be rescinded if MULs meeting specified conditions are passed by a sufficient number of states before April 1, 1989, to cover two-thirds of the population of the United States. The MULs must go into effect no later than September 1, 1989.

In the July 1984 notice, the Secretary identified various issues requiring additional rulemaking. On April 12, 1985, the agency issued two notices setting

forth proposals on all of those issues. One notice (50 FR 14589), which is the basis for the final rule being issued today, proposed: reporting requirements for the phase-in, deletion of the oblique test, alternative calculations of the head injury criterion (HIC), allowing the installation of manual belts in convertibles, use of the New Car Assessment Program (NCAP) test procedures, and adoption of a due care defense. The notice also proposed the dynamic testing of manual lap/shoulder belts for passenger cars, light trucks and light vans. The second notice (50 FR 14602) set forth the agency's proposals on the use of the Hybrid III test dummy and additional injury criteria. NHTSA has not yet completed its analysis of the comments and issues raised by the Hybrid III proposal or the proposal regarding convertibles and dynamic testing of safety belts in light trucks and light vans. The agency will publish a separate *Federal Register* notice announcing its decision with regard to these issues when it has completed its analysis.

Oblique Crash Tests

Standard No. 208 currently requires cars with automatic restraints to pass the injury protection criteria in 30 mph head-on and oblique impacts into a barrier. The April 1985 notice contained an extensive discussion of the value of the oblique test and requested commenters to provide additional data regarding the safety and other effects of deleting the requirements.

The responses to the April notice reflected the same difference of opinion found in the prior responses on this issue. Those favoring elimination of the test argue that the test is unnecessary since oblique crash tests generally show lower injury levels. They also said the additional test adds to the cost of complying with the standard—although manufacturers differed as to the extent of costs. Four manufacturers suggested that any cost reduction resulting from elimination of the test would be minimal, in part because they will continue to use the oblique tests in their restraint system developmental programs, regardless of what action the agency takes. Another manufacturer, however, said that while it would continue to use oblique testing during its vehicle development programs, the elimination of the oblique test in Standard No. 208 would result in cost and manpower savings. These savings would result because the parts used in vehicles for certification testing must be more representative of actual production parts than the parts used in vehicles crashed during development tests.

Those favoring retention of the test again emphasized that the test is more representative of real-world crashes. In addition, they said that occupants in systems without upper torso belts, such as some air bag or passive interior systems, could experience contact with the A-pillar and other vehicle structures in the oblique test that they would not experience in a head-on test. Although, again, there were conflicting opinions on this issue—one manufacturer said that oblique tests would not affect air bag design, while other manufacturers argued that the oblique test is necessary to ensure the proper design of air bag systems. The same manufacturer that said air bag design would not be affected by the oblique test, emphasized that vehicles with 2-point automatic belts or passive interiors, "may show performance characteristics in oblique tests that do not show up on perpendicular tests." Similarly, one manufacturer said that oblique tests will not result in test dummy contact with the A-pillar or front door—while another manufacturer argued that in the oblique test contact could occur with the A-pillar in vehicles using non-belt technologies.

After examining the issues raised by the commenters, the agency has decided to retain the oblique tests. There are a number of factors underlying the agency's decision. First, although oblique tests generally produce lower injury levels, they do not consistently produce those results. For example, the agency has conducted both oblique and frontal crash tests on 14 different cars as part of its research activities and NCAP testing. The driver and passenger HIC's and chest acceleration results for those tests show that the results in the oblique tests are lower in 31 of the 38 cases for which data were available. However, looking at the results in terms of vehicles, 6 of the 14 cars had higher results, exclusive of femur results, in either passenger or driver HIC's or chest accelerations in the oblique tests. The femur results in approximately one-third of the measurements were also higher in the oblique tests. Accident data also indicate that oblique impacts pose a problem. The 1982 FARS and NASS accident records show that 14 percent of the fatalities and 22 percent of the AIS 2-5 injuries occur in 30 degree impacts.

The agency is also concerned that elimination of the oblique test could lead to potential design problems in some automatic restraint systems. For example, air bags that meet only a perpendicular impact test could be made much smaller. In such a case, in an oblique car crash, the occupant would roll off the smaller bag and strike the A-pillar or instrument panel. Similarly, the upper torso belt of an automatic belt system

could slip off an occupant's shoulder in an oblique crash. In belt system with a tension-relieving device, the system will be tested with the maximum amount of slack recommended by the vehicle manufacturer, potentially increasing the possibility of the upper torso belt slipping off the occupant's shoulder. In the case of passive interiors, an occupant may be able to contact hard vehicle structures, such as the A-pillar, in oblique crashes that would not be contacted in a perpendicular test. If the A-pillar and other hard structures are not designed to provide protection in oblique crashes then there would be no assurance, as there presently is, that occupants would be adequately protected. Thus, the oblique test is needed to protect unrestrained occupants in passive interiors, and to ensure that air bags and automatic or manual safety belts are designed to accommodate some degree of oblique impact.

The agency recognizes that retention of the oblique test will result in additional testing costs for manufacturers. The agency believes, however, that there are a number of factors which should minimize those costs. First, even manufacturers opposing retention of the oblique test indicated that they will continue to perform oblique crash tests to meet their own internal requirements as well as to meet the oblique test requirements of the Standard No. 301, *Fuel System Integrity*. Since the oblique tests of Standard No. 208 and Standard No. 301 can be run simultaneously, the costs resulting from retention of the oblique crash test requirements of Standard No. 208 should not be significant.

Dynamic Testing of Manual Belts

The April notice proposed that manual lap/shoulder belts installed at the outboard seating positions of the front seat of four different vehicle types comply with the dynamic testing requirements of Standard No. 208. Those requirements provide for using test dummies in vehicle crashes for measuring the level of protection offered by the restraint system. The four vehicle types subject to this proposal are passenger cars, light trucks, small van-like buses, and light multipurpose passenger vehicles (MPV's). (The agency considers light trucks, small van-like buses, and light MPV's to be vehicles with a Gross Vehicle Weight Rating (GVWR) of 10,000 pounds or less and an unloaded vehicle weight of 5,500 pounds or less. The 5,500 pound unloaded vehicle weight limit is also used in Standard No. 212, *Windshield Retention*, and Standard No. 219, *Windshield Zone Intrusion*. The limit was adopted in those standards on April 3, 1980

(45 FR 22044) to reduce compliance problems for final-stage manufacturers. Readers are referred to the April 1980 notice for a complete discussion of the 5,500 pound limit.)

Currently, manual belts are not subject to dynamic test requirements. Instead they must be tested in accordance with Standard No. 209, *Seat Belt Assemblies*, for strength and other qualities in laboratory bench tests. Once a safety belt is certified as complying with the requirements of Standard No. 209, it currently may be installed in a vehicle without any further testing or certification as to its performance in that vehicle. The safety belt anchorages in the vehicle are tested for strength in accordance with Standard No. 210, *Seat Belt Assembly Anchorages*.

The April 1985 notice also addressed the issue of tension-relieving devices on manual belts. Tension-relieving devices are used to introduce slack in the shoulder portion of a lap-shoulder belt to reduce the pressure of the belt on an occupant or to effect a more comfortable "fit" of the belt to an occupant. The notice proposed that manufacturers be required to specify in their vehicle owner's manuals the maximum amount of slack they recommend introducing into the belt under normal use condition. Further, the owner's manual would be required to warn that introducing slack beyond the maximum amount specified by the manufacturer could significantly reduce the effectiveness of the belt in a crash. During the agency's dynamic testing of manual belts, the tension-relieving devices would be adjusted so as to introduce the maximum amount of slack specified in the owner's manual.

The agency proposed that the dynamic test requirement for passenger cars take effect on September 1, 1989, and only if the Secretary determines that two-thirds of the population is covered by effective safety belt use laws, thereby rescinding the automatic restraint requirement. Should such a determination be made, it is important that users of manual belts be assured that their vehicles offer the same level of occupant protection as if automatic restraints were in their vehicles. Absent a rescission of the automatic restraint requirement, application of the dynamic testing requirements to manual safety belts in passenger cars would be unnecessary since those belts would not be required in the outboard seating positions of the front seat. In the case of light trucks, light MPV's and small van-like buses, the agency proposed that the dynamic test requirement take effect on September 1, 1989. The proposed effective date for light trucks, light MPV's and van-like buses was

not conditional, because those vehicles are not covered by the automatic restraint requirement and will likely continue to have manual safety belts.

Adoption of the requirement

As discussed in detail below, the agency has decided to adopt a dynamic test requirement for safety belts used in passenger cars. The agency is still analyzing the issues raised in the comments about dynamic testing for safety belt systems in other vehicles and will announce its decision about safety belt systems in light trucks, MPV's and buses at a later date.

Most of the commenters favored adopting a dynamic test requirement for manual belts at least with respect to passenger cars, although many of those commenters raised questions about the lead-time needed to comply with the requirement. Those opposing the requirement argued that the field experience has shown that current manual belts provide substantial protection and thus a dynamic test requirement is not necessary. In addition, they argued that dynamic testing would substantially increase a manufacturer's testing costs, and its testing workload. One commenter said that because of the unique nature of the testing, it could not necessarily be combined with other compliance testing done by a manufacturer. The same commenter argued that vehicle downsizing, cited by the agency as one reason for dynamically testing belts, does not create safety problems since the interior space of passenger cars has remained essentially the same as it was prior to downsizing. The commenter also argued there is no field evidence that the use of tension-relieving devices in safety belts, the other reason cited by the agency in support of the need to test dynamically manual safety belts, is compromising the performance of safety belts.

The agency strongly believes that current manual belts provide very substantial protection in a crash. The Secretary's 1984 automatic protection decision concluded that current manual safety belts are at least as effective, and in some cases, more effective than current automatic belt designs. That conclusion was based on current manual safety belts, which are not certified to dynamic tests. However, as discussed in the April 1985 notice, the agency is concerned that as an increasing number of vehicles are reduced in size for fuel economy purposes and as more tension-relieving devices are used on manual belts, the potential for occupant injury increases. The agency agrees that downsizing efforts by manufacturers have attempted to preserve the interior space of passenger

cars, while reducing their exterior dimensions. Preserving the interior dimensions of the passenger compartment means that occupants will not be placed closer to instrument panels and other vehicle structures which they could strike in a crash. However, the reduction in exterior dimensions can result in a lessening of the protective crush distance available in a car. Thus the agency believes it is important to ensure that safety belts in downsized vehicles will perform adequately. In the case of tension-relieving devices, agency tests of lap/shoulder belt restrained test dummies have shown that as more slack is introduced into a shoulder belt, the injuries measured on the test dummies increased. Thus, as discussed in detail later in this notice, the agency believes it is important to ensure that safety belts with tension-relievers provide adequate protection when they are used in the manner recommended by vehicle manufacturers. This is of particular concern to the agency since the vast majority of new cars (nearly all domestically-produced cars) now are equipped with such devices. For those reasons, the agency is adopting the dynamic test requirement.

The adoption of this requirement will ensure that each and every passenger car, as compared to the vehicle population in general, offers a consistent, minimum level of protection to front seat occupants. By requiring dynamic testing, the standard will assure that the vehicle's structure, safety belts, steering column, etc., perform as a unit to protect occupants, as it is only in such a test that the synergistic and combination effects of these vehicle component can be measured. As discussed in detail in the Final Regulatory Evaluation (FRE), vehicle safety improvements will result from dynamic testing; and, as discussed later in this notice, such improvements can often be made quickly and at low cost.

The agency recognizes that manufacturers may have to conduct more testing than they currently do. However, the dynamic testing of manual belts in passenger cars, as with testing of automatic restraints, can be combined with other compliance tests to reduce the overall number of tests. The agency notes that in its NCAP tests, it has been able to combine the dynamic testing of belts with measuring the vehicle's compliance with other standards. The agency has followed the same practice in its compliance tests. For example, the agency has done compliance testing for Standard Nos. 208, 212, 219, and 301 in one test. The agency would, of course, recognize a manufacturer's use of combined tests as a valid testing procedure to certify compliance with these standards.

Effective Date

Two commenters argued that the requirement should become effective as soon as practical. As discussed in the April 1985 notice, the agency proposed an effective date of September 1, 1989, because it did not want to divert industry resources away from designing automatic restraints for passenger cars. The agency continues to believe it would be inappropriate to divert those resources for the purposes of requiring improvements on manual belt systems that might not be permitted in passenger cars.

Other commenters asked for a delay in the effective date—one asked for a delay until September 1, 1991, while another asked that the effective date be set 2-3 years after the determination of whether a sufficient number of States have passed effective mandatory safety belt use laws. NHTSA does not agree there is a need to delay the effective date beyond September 1, 1989 for passenger cars. Commenters argued that the time span between any decision on rescission of the automatic restraint requirements (as late as April 1, 1989) and the effective date of the dynamic testing of manual belts (September 1, 1985) is too short to certify manual belts.

The agency believes there is sufficient leadtime for passenger cars. Most of the vehicle components in passenger cars necessary for injury reduction management are the same for automatic restraint vehicles and dynamically tested manual belt vehicles. Additionally, as indicated and discussed in the April notice, approximately 40 percent of the passenger cars tested in the agency's 35 mph (NCAP) program meet the injury criteria specified in Standard No. 208, even though a 35 mph crash involves 36 percent more energy than the 30 mph crash test required by Standard No. 208. In addition, the FRE shows that with relatively minor vehicle and/or restraint system changes some safety belt systems can be dramatically improved. This is further evidence that development of dynamically tested manual belts for passenger cars in 30 mph tests should not be a major engineering program. Thus, a delay in the effective date for passenger cars is not needed.

Webbing tension-relieving devices

With one exception, those manufacturers who commented on the proposal concerning tension-relieving devices supported testing safety belts adjusted so that they have the amount of slack recommended by the manufacturer in the vehicle owner's manual. However, one manufacturer and two other commenters objected to the provision related to dynamic

testing with the tension-relieving device adjusted to the manufacturer's maximum recommended slack position. The manufacturer objected to a dynamic test that would require any slack at all to be introduced into the belt system, on the grounds that uncontrolled variability would be introduced into the dynamic test procedure, which would then lack objectivity. The manufacturer asserted that it might have to eliminate all tension-relieving devices for its safety belts.

The agency's proposed test procedure was intended to accommodate tension-relieving devices since they can increase the comfort of belts. At the same time, the proposal would limit the potential reduction in effectiveness for safety belt systems with excessive slack. The agency does not agree that this test procedure need result in the elimination of tension-relieving devices from the marketplace. As mentioned earlier, other manufacturers supported the proposal and did not indicate they would have to remove tension-relieving devices from their belt systems. The commenter opposing the requirement did not show that injury levels cannot be controlled within the specified injury criteria by testing with the recommended amount of slack, as determined by the manufacturer. The recommended slack could be very small or at any level selected by the manufacturer as appropriate to relieve belt pressure and still ensure that the injury reduction criteria of Standard No. 208 would be met. As a practical matter, most tension-relievers automatically introduce some slack into the belt for all occupants. Testing without such slack would be unrealistic.

The two other commenters objected to the proposal that manual belt systems using tension-relieving devices meet the injury criteria with only the specified amount of slack recommended in the owner's manual. They stated that most owners would not read the instructions in the owner's manual regarding the proper use of the tension-relieving device. They said an occupant could have a false sense of adequate restraint when wearing a belt system adjusted beyond the recommended limit.

The agency's views on allowing the use of tension relievers in safety belts were detailed in the April 1985 notice. The agency specifically noted the effectiveness of a safety belt system could be compromised if excessive slack were introduced into the belt. However, the agency recognizes that a belt system must be used to be effective at all. Allowing manufacturers to install tension-relieving devices makes it possible for an occupant to introduce a small amount of slack to relieve shoulder belt pressure or to divert

the belt away from the neck. As a result, safety belt use is promoted. This factor should outweigh any loss in effectiveness due to the introduction of a recommended amount of slack in normal use. This is particularly likely in light of the requirement that the belt system, so adjusted, must meet the injury criteria of Standard No. 208 under 30 mph test conditions. Further, the inadvertent introduction of slack into a belt system, which is beyond that for normal use, is unlikely in most current systems. In addition, even if too much slack is introduced, the occupant should notice that excessive slack is present and a correction is needed, regardless of whether he or she has read the vehicle's owner's manual.

Exemption from Standard Nos. 203 and 204

One commenter suggested that vehicles equipped with dynamically tested manual belts be exempt from Standard Nos. 203, *Impact Protection for the Driver from the Steering Control Systems*, and 204, *Steering Column Rearward Displacement*. The agency does not believe such an exemption would be appropriate because both those standards have been shown to provide substantial protection to belted drivers.

Latching procedure in Standard No. 208

One commenter asked that Standard No. 208 be modified to include a test procedure for latching and adjusting a manual safety belt prior to the belt being dynamically tested. NHTSA agrees that Standard No. 208 should include such a procedure. The final rule incorporates the instructions contained in the NCAP test procedures for adjusting manual belts, as modified to reflect the introduction of the amount of slack recommended by the vehicle manufacturer.

Revisions to Standard No. 209

The notice proposed to exempt dynamically tested belts from the static laboratory strength tests for safety belt assemblies set forth in S4.4 of Standard No. 209. One commenter asked that such belts be exempted from the remaining requirements of Standard No. 209 as well.

NHTSA agrees that an additional exemption from some performance requirements of Standard No. 209 is appropriate. Currently, the webbing of automatic belts is exempt from the elongation and other belt webbing and attachment hardware requirements of Standard No. 209, since those belts have to meet the injury protection criteria of Standard No. 208 during a crash. For dynamically-tested manual belts,

NHTSA believes that an exemption from the webbing width, strength and elongation requirements (sections 4.2(a)-(c)) is also appropriate, since these belts will also have to meet the injury protection requirements of Standard No. 208. The agency has made the necessary changes in the rule to adopt that exemption.

The agency does not believe that manual belts should be exempt from the other requirements in Standard No. 209. For example, the requirements on buckle release force should continue to apply, since manual safety belts, unlike automatic belts, must be buckled every time they are used. As with retractors in automatic belts, retractors in dynamically tested manual belts will still have to meet Standard No. 209's performance requirements.

Revisions to Standard No. 210

The notice proposed that dynamically tested manual belts would not have to meet the location requirements set forth in Standard No. 210, *Seat Belt Assembly Anchorages*. One commenter suggested that dynamically tested belts be completely exempt from Standard No. 210; it also recommended that Standard No. 210 be harmonized with Economic Commission for Europe (ECE) Regulation No. 14. Two other commenters suggested using the "out-of-vehicle" dynamic test procedure for manual belts contained in ECE Regulation No. 16, instead of the proposed barrier crash test in Standard No. 208.

The agency does not believe that the "out-of-vehicle" laboratory bench test of ECE Regulation No. 16 should be allowed as a substitute for a dynamic vehicle crash test. The protection provided by safety belts depends on the performance of the safety belts themselves, in conjunction with the structural characteristics and interior design of the vehicle. The best way to measure the performance of the safety belt/vehicle combination is through a vehicle crash test.

The agency has already announced its intention to propose revisions to Standard No. 210 to harmonize it with ECE Regulation No. 14; therefore the commenters' suggestions concerning harmonization and exclusion of dynamically tested safety belts from the other requirements of Standard No. 210 will be considered during that rulemaking. At the present time, the agency is adopting only the proposed exclusion of anchorages for dynamically tested safety belts from the location requirements, which was not opposed by any commenter.

Belt Labelling

One commenter objected to the proposal that dynamically tested belts have a label indicating that they may be installed only at the front outboard seating positions of certain vehicles. The commenter said that it is unlikely that anyone would attempt to install a Type 2 lap shoulder belt in any vehicle other than the model for which it was designed. The agency does not agree. NHTSA believes that care must be taken to distinguish dynamically tested belt systems from other systems, since misapplication of a belt in a vehicle designed for use with a specific dynamically tested belt could pose a risk of injury. If there is a label on the belt itself, a person making the installation will be aware that the belt should be installed only in certain vehicles.

Use of the Head Injury Criterion

The April 1985 notice set forth two proposed alternative methods of using the head injury criterion (HIC) in situations when there is no contact between the test dummy's head and the vehicle's interior during a crash. The first proposed alternative was to retain the current HIC calculation for contact situations. However, in non-contact situations, the agency proposed that a HIC would not be calculated, but instead new neck injury criteria would be calculated. The agency explained that a crucial element necessary for deciding whether to use the HIC calculation or the neck criteria was an objective technique for determining the occurrence and duration of head contact in the crash test. As discussed in detail in the April 1985 notice, there are several methods available for establishing the duration of head contact, but there are questions about their levels of consistency and accuracy.

The second alternative proposed by the agency would have calculated a HIC in both contact and non-contact situations, but it would limit the calculation to a time interval of 36 milliseconds. Along with the requirement that a HIC not exceed 1000, this would limit average head acceleration to 60g's or less.

Almost all of the commenters opposed the use of the first proposed alternative. The commenters uniformly noted that there is no current technique that can accurately identify whether head contact has or has not occurred during a crash test in all situations. However, one commenter urged the agency to adopt the proposed neck criteria, regardless of whether the HIC calculation is modified. There was a sharp division among the commenters on the second proposed alternative. Manufacturers commenting on

the issue uniformly supported the use of the second alternative; although many manufacturers argued that the HIC calculation should be limited to a time interval of approximately 15 to 17 milliseconds (ms), which would limit average head accelerations to 80-85 g's. Another manufacturer, who supported the second alternative, urged the agency to measure HIC only during the time interval that the acceleration level in the head exceeds 60 g's. It said that this method would more effectively differentiate results received in contacts with hard surfaces and results obtained from systems, such as airbags, which provide good distribution of the loads experienced during a crash. Other commenters argued that the current HIC calculation should be retained; they said that the proposed alternatives would lower HIC calculations without ensuring that motorists were still receiving adequate head protection.

NHTSA is in the process of reexamining the potential effects of the two alternatives proposed by the agency and of the two additional alternatives suggested by the commenters. Once that review has been completed, the agency will issue a separate notice announcing its decision.

NCAP Test Procedures

The April 1985 notice proposed adopting the test procedures on test dummy positioning and vehicle loading used in the agency's NCAP testing. The commenters generally supported the adoption of the test procedures, although several commenters suggested changes in some of the proposals. In addition, several commenters argued that the new procedures may improve test consistency, but the changes do not affect what they claim is variability in crash test results. As discussed in the April 1985 notice, the agency believes that the test used in Standard No. 208 does produce repeatable results. The proposed changes in the test procedures were meant to correct isolated problems that occurred in some NCAP tests. The following discussion addresses the issues raised by the commenters about the specific test procedure changes.

Vehicle test attitude

The NPRM proposed that when a vehicle is tested, its attitude should be between its "as delivered" condition and its "loaded" condition. (The "as delivered" condition is based on the vehicle attitude measured when it is received at the test site, with 100 percent of all its fluid capacities and with all its tires inflated to the manufacturer's specifications. For passenger

cars, the “loaded” condition is based on the vehicle’s attitude with a test dummy in each front outboard designated seating position, plus carrying the cargo load specified by the manufacturer).

One commenter said that the weight distribution, and therefore the attitude, of the vehicle is governed more by the Gross Axle Weight Rating (defined in 49 CFR Part 571.3) than the loading conditions identified by the agency. The commenter recommended that the proposal not be adopted. Another commenter said that the agency should adopt more specific procedures for the positioning of the dummy and the cargo weight. For example, that commenter recommended that the “cargo weight shall be placed in such manner that its center of gravity will be coincident with the longitudinal center of the trunk, measured on the vehicle’s longitudinal centerline.” The commenter said that unless a more specific procedure is adopted, a vehicle’s attitude in the fully loaded condition would not be constant.

The agency believes that a vehicle attitude specification should be adopted. The purpose of the requirement is to ensure that a vehicle’s attitude during a crash test is not significantly different than the fully loaded attitude of the vehicle as designed by the manufacturer. Random placement of any necessary ballast could have an effect on the test attitude of the vehicle. If these variables are not controlled, then the vehicle’s test attitude could be affected and potential test variability increased.

NHTSA does not agree that the use of the Gross Axle Weight Rating (GAWR) is sufficient to determine the attitude of a vehicle. The use of GAWR only defines the maximum load-carrying capacity of each axle rather than in effect specifying a minimum and maximum loading as proposed by the agency. In addition, use of the GAWR may, under certain conditions, make it necessary to place additional cargo in the passenger compartment in order to achieve the GAWR loading. This condition is not desirable for crash testing, since the passenger compartment should be used for dummy placement and instrumentation and not ballast cargo. Thus the commenter’s recommendation is not accepted.

The other commenter’s recommendations regarding more specific test dummy placement procedures for the outboard seating positions were already accommodated in the NPRM by the proposed new S10.1.1, *Driver position placement*, and S10.1.2, *Passenger position placement*. Since those proposals adequately describe dummy placement in these positions, they are adopted.

NHTSA has evaluated the commenter’s other sug-

gestion for placing cargo weight with its center of gravity coincident with the longitudinal center of the trunk. The agency does not believe that it is necessary to determine the center of gravity of the cargo mass, which would add unnecessary complexity to the test procedure, but does agree that the cargo load should be placed so that it is over the longitudinal center of the trunk. The test procedures have been amended accordingly.

Open window

One commenter raised a question about the requirement in S8.1.5 of Standard No. 208 that the vehicle’s windows are to be closed during the crash test. It said adjustment of the dummy arm and the automatic safety belt can be performed only after an automatic belt is fully in place, which occurs only after the door is closed. Therefore, the window needs to be open to allow proper arm and belt placement after the door is closed.

NHTSA agrees that the need to adjust the slack in automatic and dynamically-tested manual belts prior to the crash test may require that the window remain open. The agency has modified the test procedure to allow manufacturers the option of having the window open during the crash test.

Seat back position

One commenter recommended that proposed S8.1.3, *Adjustable seat back placement*, be modified. The notice proposed that adjustable seat backs should be set in their design riding position as measured by such things as specific latch or seat track detent positions. The commenter suggested two options. The first option would be to allow vehicle manufacturers to specify any means they want to determine the seat back angle and the resulting dummy torso angle. As its second option, the commenter recommended that if the agency decides to adopt the proposal, it should determine the “torso angle with a H-point machine according to SAE J826.” The commenter said that depending on how the torso angle is established, different dummy torso angles could result in substantial adjustment deviations that can affect seat back placement.

The purpose of the requirement is to position the seat at the design riding position used by the manufacturer. The agency agrees with the commenter that manufacturers should have the flexibility to use any method they want to specify the seat back angle. Thus, the agency has made the necessary changes to the test procedure.

Dummy placement

One commenter made several general comments about dummy placement. It agreed that positioning is very important and can have an influence on the outcome of crash tests. It argued that both the old and the proposed procedures are complicated and impractical to use. The commenter claims this situation will become more complicated if the Hybrid III is permitted, since the positioning must be carried out within a narrow temperature range (3°F) for the test dummy to remain in calibration.

The commenter also believes that the positioning of the dummy should relate to vehicle type. It said that the posture and seating position of a vehicle occupant will not be the same in a van as in a sports car. For example, it said it has tried the proposed positioning procedures and found that they can result in an "unnatural" position for the dummy in a sports vehicle. The commenter argued that this "unnatural" position would then lead to a knee bolster design which would perform well in a crash test, but would likely not provide the same protection to a real occupant because of difference in positioning. The commenter recommended that the old positioning procedure be retained and the new procedure be provided as an option for those manufacturers whose vehicles cannot be adequately tested otherwise.

Because consistency in positioning the dummy is required prior to test, NHTSA believes that a single set of procedures should apply. As discussed in the April 1985 notice, the agency proposed the new procedures because of positioning problems identified in the NCAP testing. Allowing the use of the old positioning procedures could lead to sources of variability, thus negating a major objective of the procedures. The commenter's suggestion is therefore not adopted. The agency also notes that during its NCAP testing, which has involved tests of a wide variety of cars (including sports cars), trucks and MPV's, NHTSA has not experienced the "unnatural" seating position problem cited by the commenter.

Knee pivot bolt head clearance

Two commenters said that the proposal did not specify the correct distance between the dummy's knees, as measured by the clearance between the knee pivot bolt heads. The commenters are correct that the distance should be 11¾ inches rather than the proposed value of 14½ inches. The agency has corrected the number in the final rule.

Foot rest

One commenter believes that a driver of cars equipped with foot rests typically will place his or her left foot on the foot rest during most driving and therefore this position should be used to simulate normal usage. The commenter said that using the foot rest will minimize variations in the positioning of the left leg, thus improving the repeatability of the test. In a discussion with the commenter, the agency has learned that the type of foot rest the commenter is referring to is a pedal-like structure where the driver can place his or her foot.

For vehicles without foot rests, the commenter recommended the agency use the same provisions for positioning the left leg of the driver as are used for the right leg of the passenger. It noted that positioning the driver's left leg, as with the passenger's right leg, can be hampered by wheelwell housing that projects into the passenger compartment and thus similar procedures for each of those legs should be used.

NHTSA agrees that in vehicles with foot rests, the test dummy's left foot should be positioned on the foot rest as long as placing the foot there will not elevate the test dummy's left leg. As discussed below, the agency is concerned that foot rests, such as pads on the wheelwell, that elevate the test dummy's leg can contribute to test variability. The agency also agrees that the positioning procedures for the driver's left leg and the passenger's right leg should be similar in situations where the wheelwell housing projects into the passenger compartment and has made the necessary changes to the test procedure.

Wheelwell

One commenter believes that the wheelwell should be used to rest the dummy's foot. It said that positioning the test dummy's foot there is particularly appropriate if the wheelwell has a design feature, such as a rubber pad, installed by the manufacturer for this purpose.

NHTSA disagrees that the dummy's foot should be rested on the wheelwell housing. The agency is concerned that elevating the test dummy's leg could lead to test variability by, among other things, making the test dummy unstable during a crash test. Although the wheelwell problem is similar to the foot rest problem, placement of the test dummy's foot on a separate, pedal-like foot rest can be accomplished while retaining the heel of the test dummy in a stable position on the floor. That is not the case with pads located on the wheelwell.

Another commenter also said that the proposed procedure for positioning the test dummy's legs in vehicles where the wheelwell projected into the passenger compartment was unclear as to how the centerlines of the upper and lower legs should be adjusted so that both remain in a vertical longitudinal plane. In particular, it was concerned that in a vehicle with a large wheelhousing, it may not be possible to keep the left foot of the driver test dummy in the vertical longitudinal plane after the right foot has been positioned. It believes that the procedure should specify which foot position should be given priority; it recommended that the position of the right leg be required to remain in the plane, while bringing the left leg as close to the vertical longitudinal plane as possible. The agency agrees that maintaining the inboard leg of the test dummy in the vertical plane is more easily accomplished since it will not be blocked by the wheelwell. The agency has modified the test procedure to specify that when it is not possible to maintain both legs in the vertical longitudinal plane, that the inboard leg must be kept as close as possible to the vertical longitudinal plane and the outboard leg should be placed as close as possible to the vertical plane.

Lower leg angle

One commenter argued that proposed sections on lower leg positioning (S10.1.2.1 (b) and S10.1.2.2 (b)) will not result in a constant positioning of the test dummy's heels on the floor pan, thus causing differences in the lower leg angles. It stated that the lower leg angles will affect the femur load generated at the moment the foot hits the toe board during a collision. The commenter therefore proposed that the test procedure be revised to include placing a 20 pound load on the test dummy's knee during the foot positioning procedure. The commenter did not, however, explain the basis for choosing a force of 20 pounds.

NHTSA believes that use of the additional weight loading and settling procedure proposed by the commenter will add an unnecessary level of complexity to the test procedure without adding any corresponding benefit. The positioning of the test dummy's heel has not been a problem in the agency's NCAP tests. Accordingly, the agency is not adopting the commenter's recommendation.

Shoulder adjustment

One commenter asked the agency to specify that the shoulders of the test dummy be placed at their

lowest adjustment position. While the shoulders are slightly adjustable, the agency believes that specifying an adjustment position is unnecessary. The agency's test experience has shown that the up and down movement of the shoulders is physically limited by the test dummy's rubber "skin" around the openings where the arms are connected to the test dummy's upper torso.

Dummy lifting procedure

One commenter was concerned about the dummy lifting proposed in (Section S10.4.1, *Dummy Vertical Upward Displacement*). It said that if the dummy lifting method is not standardized, test results could be affected by allowing variability in the position of the dummy's H point (the H point essentially represents the hip joint) through use of different lifting methods. It recommended use of a different chest lifting method to avoid variability in the subsequent positioning of the test dummy H-point.

The agency is not aware of any test data indicating that the use of different lifting methods is a significant source of variability. As long as a manufacturer follows the procedures set forth in S10.4.1 in positioning the test dummy, it can use any lifting procedure it wants.

Dummy settling load

One commenter was concerned about the proposed requirements for dummy settling (S10.4.2, *Lower torso force application*, and S10.4.5, *Upper torso force application*). The commenter believes that the proposals are inadequate because they do not prescribe the area over which to apply the load used to settle the test dummy in the seat. The commenter said that if the proposed 50 pound settling force is applied to an extremely small contact area, then the dummy may be deformed. It recommended that the load be applied to a specified area of 9 square inches on the dummy. In addition, it recommended that the agency specify the duration of the 50 lb. force application during the adjustment of the upper torso; it suggested a period of load application ranging from 5 to 10 seconds.

NHTSA and others have successfully used the proposed settling test procedures in their own tests without having any variability problems. Unless abnormally small contact areas are employed, or extremely short durations are used, standard laboratory practices should not result in any such problems. The agency believes that further specifying the area and timing of the force application is not necessary.

Dummy head adjustment

One commenter pointed out that it is impossible to adjust the head according to S10.6, Head Adjustment, because the Part 572 test dummy does not have a head adjustment mechanism. The agency agrees and has deleted the provision.

Additional dummy settling and shoulder belt positioning procedures

One commenter suggested a substantial revised dummy settling procedure and new procedures for positioning of the shoulder belt. NHTSA believes that its proposed procedures sufficiently address the settling and belt position issues. In addition, the commenter did not provide any data to show that variability would be further reduced by its suggested procedures. A substantial amount of testing would be needed to verify if the commenter's suggested test procedures do, in fact, provide any further decrease in variability than that obtained by the agency's test procedures. For those reasons, the agency is not adopting the commenter's suggestions for new procedures.

Due Care

In the April 1985 notice, the agency proposed amending the standard to state that the due care provision of section 108(b)(2) of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1397(b)(2)) applies to compliance with the standard. Thus, a vehicle would not be deemed in noncompliance if its manufacturer establishes that it did not have reason to know in the exercise of due care that such vehicle is not in conformity with the standard.

Commenters raised a number of questions about the proposal, with some saying that the agency needed to clarify what constitutes "due care," others recommending that the agency reconsider the use of "design to conform" language instead of due care and another opposing the use of any due care provision.

A number of commenters, while supporting the use of a due care provision, said that the proposal provides no assurance that a manufacturer's good faith effort will be considered due care. They said that the agency should identify the level of testing and analysis necessary to constitute due care. Another commenter emphasized that in defining due care, the agency must ensure that a manufacturer uses recognized statistical procedures in determining that its products comply with the requirements of the standard.

Another group of commenters requested the agency to reconsider its decision not to use "design to conform" language in the standard; they said that the agency's concerns about the subjectivity of a "design to conform" language are not greater and could well be less than that resulting from use of due care language.

One commenter opposed the use of any due care language in the standard. It argued that the National Traffic and Motor Vehicle Safety Act requires the agency to set objective performance requirements in its standards. When a manufacturer determines that it has not met those performance requirements, then the manufacturer is under an obligation to notify owners and remedy the noncomplying vehicles. It argued that the proposed due care provision, in effect, provides manufacturers with an exemption from the Vehicle Safety Act recall provisions.

As discussed in the July 1984 final rule and the April 1985 notice, the agency believes that the test procedure of Standard No. 208 produces repeatable results in vehicle crash tests. The agency does, however, recognize that the Standard No. 208 test is more complicated than NHTSA's other crash test standards since a number of different injury measurements must be made on the two test dummies used in the testing. Because of this complexity, the agency believes that manufacturers need assurance from the agency that, if they have made a good faith effort in designing their vehicles and have instituted adequate quality control measures, they will not face the recall of their vehicles because of an isolated apparent failure to meet one of the injury criteria. The adoption of a due care provision provides that assurance. For the reasons discussed in the July 1984 final rules, the agency still believes use of a due care provision is a better approach to this issue than use of a design to conform provision.

As the agency has emphasized in its prior interpretation letters, a determination of what constitutes due care can only be made on a case-by-case basis. Whether a manufacturer's action will constitute due care will depend, in part, upon the availability of test equipment, the limitations of available technology, and above all, the diligence evidenced by the manufacturer.

Adoption of a due care defense is in line with the agency's long-standing and well-known enforcement policy on test differences. Under this long standing practice if the agency's testing shows noncompliance and a manufacturer's tests, valid on their face, show complying results, the agency will conduct an inquiry into the reason for the differing results. If the agency

concludes that the difference in results can be explained to the agency's satisfaction, that the agency's results do not indicate an unreasonable risk to safety, and that the manufacturer's tests were reasonably conducted and were in conformity with standard, then the agency does not use its own tests as a basis for a finding of noncompliance. Although this interpretation has long been a matter of public record, Congress, in subsequent amendments of the Vehicle Safety Act, has not acted to alter that interpretation. The Supreme Court has said that under those circumstances, it can be presumed that the agency's interpretation has correctly followed the intent of the statute. (*See United States v. Rutherford*, 442 U.S. 544, 544 n. 10 (1979))

Phase-In

Attribution rules

With respect to cars manufactured by two or more companies, and cars manufactured by one company and imported by another, the April 1985 notice proposed to clarify who would be considered the manufacturer for purposes of calculating the average annual production of passenger cars for each manufacturer and the amount of passenger cars manufactured by each manufacturer that must comply with the automatic restraint phase-in requirements. In order to provide maximum flexibility to manufacturers, while assuring that the percentage phase-in goals are met, the notice proposed to permit manufacturers to determine, by contract, which of them will count, as its own, passenger cars manufactured by two or more companies or cars manufactured by one company and imported by another.

The notice also proposed two rules of attribution in the absence of such a contract. First, a passenger car which is imported for purposes of resale would be attributed to the importer. The agency intended that this proposed attribution rule would apply to both direct importers as well as importers authorized by the vehicle's original manufacturer. (In this context, direct importation refers to the importation of cars which are originally manufactured for sale outside the U.S. and which are then imported without the manufacturer's authorization into the U.S. by an importer for purposes of resale. The Vehicle Safety Act requires that such vehicles be brought into conformity with Federal motor vehicle safety standards.) Under the second proposed attribution rule, a passenger car manufactured in the United States by more than one manufacturer, one of which also

markets the vehicle, would be attributed to the manufacturer which markets the vehicle.

These two proposed rules would generally attribute a vehicle to the manufacturer which is most responsible for the existence of the vehicle in the United States, i.e., by importing the vehicle or by manufacturing the vehicle for its own account as part of a joint venture, and marketing the vehicle. (Importers generally market the vehicles they import.) All commenters on these proposals supported giving manufacturers the flexibility to determine contractually which manufacturer would count the passenger car as its own. The commenters also supported the proposed attribution rules. Therefore, the agency is adopting the provisions as proposed.

Credit for early phase-in

The April 1985 notice proposed that manufacturers that exceeded the minimum percentage phase-in requirements in the first or second years could count those extra vehicles toward meeting the requirements in the second or third years. In addition, manufacturers could also count any automatic restraint vehicles produced during the one year preceding the first year of the phase-in. Since all the commenters addressing these proposals supported them, the agency is adopting them as proposed. The agency believes that providing credit for early introduction will encourage introduction of larger numbers of automatic restraints and provide increased flexibility for manufacturers. In addition, it will assure an orderly build-up of production capability for automatic restraint equipped cars as contemplated by the July 1984 final rule.

One commenter asked the agency to establish a new credit for vehicles equipped with non-belt automatic restraints at the driver's position and a dynamically-tested manual belt at the passenger position. The commenter requested that such a vehicle receive a 1.0 credit. The commenter also asked the agency to allow vehicles equipped with driver-only automatic restraint systems to be manufactured after September 1, 1989, the effective date for automatic restraints for the driver and front right passenger seating positions in all passenger cars. In its August 30, 1985 notice (50 FR 35233) responding to petitions for reconsideration of the July 1984 final rule on Standard No. 208, the agency has already adopted a part of the commenter's suggestion by establishing a 1.0 vehicle credit for vehicles equipped with a non-belt automatic restraint at the driver's position and a manual lap/shoulder belt at the passenger's position. For reasons detailed in the July 1984 final rule, the

agency believes that the automatic restraint requirement should apply to both front outboard seating positions beginning on September 1, 1989, and is therefore not adopting the commenter's second suggestion.

Phase-In Reporting Requirements

The April 1985 notice proposed to establish a new Part 585, *Automatic Restraint Phase-in Reporting Requirements*. The agency proposed requiring manufacturers to submit three reports to NHTSA, one for each of the three automatic restraint phase-in periods. Each report, covering production during a 12-month period beginning September 1 and ending August 31, would be required to be submitted within 60 days after the end of such period. Information required by each report would include a statement regarding the extent to which the manufacturer had complied with the applicable percentage phase-in requirement of Standard No. 208 for the period covered by the report; the number of passenger cars manufactured for sale in the United States for each of the three previous 12-month production periods; the actual number of passenger cars manufactured during the reporting production (or during a previous production period and counted toward compliance in the reporting production period) period with automatic safety belts, air bags and other specified forms of automatic restraint technology, respectively; and brief information about any express written contracts which concern passenger cars produced by more than one manufacturer and affect the report.

One commenter questioned the need for a reporting requirement, saying that the requirement was unnecessary since manufacturers must self-certify that their vehicles meet Standard No. 208. The agency believes that a reporting requirement is needed for the limited period of the phase-in of automatic restraints so that the agency can carry out its statutory duty to monitor compliance with the Federal motor vehicle safety standards. During the phase-in, only a certain percentage of vehicles are required to have automatic restraints. It would be virtually impossible for the agency to determine if the applicable percentage of passenger cars has been equipped with automatic restraints unless manufacturers provide certain production information to the agency. NHTSA is therefore adopting the reporting requirement.

The same commenter said that requiring the report to be due 60 days after the end of the production year can be a problem for importers. The commenter said

that production records may accompany the vehicle, which may not actually reach the United States until 30 or 45 days after the production year ends. The commenter asked the agency to provide an appeal process to seek an extension of the period to file the report. The agency believes that the example presented by the commenter represents a worst case situation and complying with the 60 day requirement should not be a problem for manufacturers, including importers. However, to eliminate any problems in worst case situations, the agency is amending the regulation to provide that manufacturers seeking an extension of the deadline to file a report must file a request for an extension at least 15 days before the report is due.

Calculation of average annual production

The agency also proposed an alternative to the requirement that the number of cars that must be equipped with automatic restraints must be based on a percentage of each manufacturer's average annual production for the past three model years. The proposed alternative would permit manufacturers to equip the required percentage of its actual production of passenger cars with automatic restraints during each affected year. Since all commenters addressing this proposal supported it, the agency is adopting it as an alternative means of compliance, at the manufacturer's option. In the case of a new manufacturer, the manufacturer would have to calculate the amount of passenger cars required to have automatic restraints based on its production of passenger cars during each of the affected years. Since the agency has decided to adopt the alternative basis for determining the production quota, it has made the necessary conforming changes in the reporting requirements adopted in this notice.

One commenter also requested the agency to clarify whether a manufacturer does have to include its production volume of convertibles when it is calculating the percentage of vehicles that must meet the phase-in requirement. The automatic restraint requirement applies to all passenger cars. Thus, a manufacturer's production figures for passenger car convertibles must be counted when the manufacturer is calculating its phase-in requirements.

Retention of VINs

In order to keep administrative burdens to a minimum, the agency proposed that the required report need not use the VIN to identify the particular type of automatic restraint installed in each

passenger car produced during the phase-in period. Since that information could be necessary for purposes of enforcement, however, the agency proposed to require that manufacturers maintain records until December 31, 1991, of the VIN and type of automatic restraint for each passenger car which is produced during the phase-in period and is reported as having automatic restraints. Although direct import cars are not required to have a US-format VIN number, those cars would still have a European-format VIN number and thus direct importers would be required to retain that VIN information. (The agency is considering a petition from Volkswagen requesting that direct import cars be required to have US-format VINs.)

The reason for retaining the information until 1991 is to ensure that such information would then be available until the completion of any agency enforcement action begun after the final phase-in report is filed in 1990. The agency believes this requirement meets the needs of the agency, with minimal impacts on manufacturers, and therefore is adopting it as proposed. One commenter asked whether a manufacturer is required to keep the VIN information as a separate file or whether keeping the information as a part of its general business records is sufficient. As long as the VIN information is retrievable, it may be stored in any manner that is convenient for a manufacturer.

In consideration of the foregoing, 49 CFR Part 571.208 is amended as follows:

The authority citation for Part 571 would continue to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

1. Section S4.1.3.1.2 is revised to read as follows:

S4.1.3.1.2 Subject to S4.1.3.4 and S4.1.5, the amount of passenger cars, specified in S4.1.3.1.1 complying with the requirements of S4.1.2.1 shall be not less than 10 percent of:

(a) the average annual production of passenger cars manufactured on or after September 1, 1983, and before September 1, 1986, by each manufacturer, or

(b) the manufacturer's annual production of passenger cars during the period specified in S4.1.3.1.1.

2. Section 4.1.3.2.2 is revised to read as follows:

S4.1.3.2.2 Subject to S4.1.3.4 and S4.1.5, the amount of passenger cars specified in S4.1.3.2.1 complying with the requirements of S4.1.2.1 shall be not less than 25 percent of:

(a) the average annual production of passenger cars manufactured on or after September 1, 1984,

and before September 1, 1987, by each manufacturer, or

(b) the manufacturer's annual production of passenger cars during the period specified in S4.1.3.2.1.

3. Section 4.1.3.3.2 is revised to read as follows:

S4.1.3.3.2 Subject to S4.1.3.4 and S4.1.5, the amount of passenger cars specified in S4.1.3.3.1 complying with the requirements of S4.1.2.1 shall not be less than 40 percent of:

(a) the average annual production of passenger cars manufactured on or after September 1, 1985, and before September 1, 1988, by each manufacturer or

(b) the manufacturer's annual production of passenger cars during the period specified in S4.1.3.3.1.

4. Section S4.1.3.4 is revised to read as follows:

S4.1.3.4 *Calculation of complying passenger cars.*

(a) For the purposes of calculating the numbers of cars manufactured under S4.1.3.1.2, S4.1.3.2.2, or S4.1.3.3.2 to comply with S4.1.2.1:

(1) each car whose driver's seating position complies with the requirements of S4.1.2.1(a) by means not including any type of seat belt and whose front right seating position will comply with the requirements of S4.1.2.1(a) by any means is counted as 1.5 vehicles, and

(2) each car whose driver's seating position complies with the requirements of S4.1.2.1(a) by means not including any type of seat belt and whose right front seat seating position is equipped with a manual Type 2 seat belt is counted as one vehicle.

(b) For the purposes of complying with S4.1.3.1.2, a passenger car may be counted if it:

(1) is manufactured on or after September 1, 1985, but before September 1, 1986, and

(2) complies with S4.1.2.1.

(c) For the purposes of complying with S4.1.3.2.2, a passenger car may be counted if it:

(1) is manufactured on or after September 1, 1985, but before September 1, 1987,

(2) complies with S4.1.2.1, and

(3) is not counted toward compliance with S4.1.3.1.2

(d) For the purposes of complying with S4.1.3.3.2, a passenger car may be counted if it:

(1) is manufactured on or after September 1, 1985, but before September 1, 1988,

(2) complies with S4.1.2.1, and

(3) is not counted toward compliance with S4.1.3.1.2 or S4.1.3.2.2.

5. A new section S4.1.3.5 is added to read as follows:
S4.1.3.5 *Passenger cars produced by more than one manufacturer.*

S4.1.3.5.1 For the purposes of calculating average annual production of passenger cars for each manufacturer and the amount of passenger cars manufactured by each manufacturer under S4.1.3.1.2, S4.1.3.2.2 or S4.1.3.3.2, a passenger car produced by more than one manufacturer shall be attributed to a single manufacturer as follows, subject to S4.1.3.5.2:

(a) A passenger car which is imported shall be attributed to the importer.

(b) A passenger car manufactured in the United States by more than one manufacturer, one of which also markets the vehicle, shall be attributed to the manufacturer which markets the vehicle.

S4.1.3.5.2 A passenger car produced by more than one manufacturer shall be attributed to any one of the vehicle's manufacturers specified by an express written contract, reported to the National Highway Traffic Safety Administration under 49 CFR Part 585, between the manufacturer so specified and the manufacturer to which the vehicle would otherwise be attributed under S4.1.3.5.1.

6. A new section S4.6 is added to read as follows:

S4.6 *Dynamic testing of manual belt systems.*

S4.6.1 If the automatic restraint requirement of S4.1.4 is rescinded pursuant to S4.1.5, then each passenger car that is manufactured after September 1, 1989, and is equipped with a Type 2 manual seat belt assembly at each front outboard designated seating position pursuant to S4.1.2.3 shall meet the frontal crash protection requirements of S5.1 at those designated seating positions with a test dummy restrained by a Type 2 seat belt assembly that has been adjusted in accordance with S7.4.2.

S4.6.2 A Type 2 seat belt assembly subject to the requirements of S4.6.1 of this standard does not have to meet the requirements of S4.2(a)-(c) and S4.4 of Standard No. 209 (49 CFR 571.209) of this Part.

7. S7.4.2 is revised to read as follows:

S7.4.2 *Webbing tension relieving device.* Each vehicle with an automatic seat belt assembly or with a Type 2 manual seat belt assembly that must meet S4.6 installed in a front outboard designated seating position that has either manual or automatic devices permitting the introduction of slack in the webbing of the shoulder belt (e.g., "comfort clips" or "window-shade" devices) shall:

(a) comply with the requirements of S5.1 with the shoulder belt webbing adjusted to introduce the maximum amount of slack recommended by the manufacturer pursuant to S7.4.2.(b);

(b) have a section in the vehicle owner's manual that explains how the tension-relieving device works and specifies the maximum amount of slack (in inches) recommended by the vehicle manufacturer to be introduced into the shoulder belt under normal use conditions. The explanation shall also warn that introducing slack beyond the amount specified by the manufacturer can significantly reduce the effectiveness of the shoulder belt in a crash; and

(c) have an automatic means to cancel any shoulder belt slack introduced into the belt system by a tension-relieving device each time the safety belt is unbuckled or the adjacent vehicle door is opened, except that open-body vehicles with no doors can have a manual means to cancel any shoulder belt slack introduced into the belt system by a tension-relieving device.

8. Section 8.1.1(c) is revised to read as follows:

S8.1.1(c) *Fuel system capacity.* With the test vehicle on a level surface, pump the fuel from the vehicle's fuel tank and then operate the engine until it stops. Then, add Stoddard solvent to the test vehicle's fuel tank in an amount which is equal to not less than 92 and not more than 94 percent of the fuel tank's usable capacity stated by the vehicle's manufacturer. In addition, add the amount of Stoddard solvent needed to fill the entire fuel system from the fuel tank through the engine's induction system.

9. A new section 8.1.1(d) is added to read as follows:

S8.1.1(d) *Vehicle test attitude.* Determine the distance between a level surface and a standard reference point on the test vehicle's body, directly above each wheel opening, when the vehicle is in its "as delivered" condition. The "as delivered" condition is the vehicle as received at the test site, with 100 percent of all fluid capacities and all tires inflated to the manufacturer's specifications as listed on the vehicle's tire placard. Determine the distance between the same level surface and the same standard reference points in the vehicle's "fully loaded condition". The "fully loaded condition" is the test vehicle loaded in accordance with S8.1.1(a) or (b), as applicable. The load placed in the cargo area shall be centered over the longitudinal centerline of the vehicle. The pretest vehicle attitude shall be equal to either the as delivered or fully loaded attitude or between the as delivered attitude and the fully loaded attitude.

10. S7.4.3 is revised by removing the reference to "S10.6" and replacing it with a reference to "S10.7."

11. S7.4.4 is revised by removing the reference to "S10.5" and replacing it with a reference to "S10.6."

12. S7.4.5 is revised by removing the reference to "S8.1.11" and replacing it with a reference to "S10."

13. Section 8.1.3 is revised to read as follows:

S8.1.3 *Adjustable seat back placement.* Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer. Place each adjustable head restraint in its highest adjustment position.

14. Sections 8.1.11 through 8.1.11.2.3 are removed.

15. Sections 8.1.12 and 8.1.13 are redesignated 8.1.11 and 8.1.12, respectively.

16. Section 10 is revised to read as follows:

S10 *Test dummy positioning procedures.* Position a test dummy, conforming to Subpart B of Part 572 (49 CFR Part 572), in each front outboard seating position of a vehicle as specified in S10.1 through S10.9. Each test dummy is:

(a) not restrained during an impact by any means that require occupant action if the vehicle is equipped with automatic restraints.

(b) restrained by manual Type 2 safety belts, adjusted in accordance with S10.9, if the vehicle is equipped with manual safety belts in the front outboard seating positions.

S10.1 *Vehicle equipped with front bucket seats.* Place the test dummy's torso against the seat back and its upper legs against the seat cushion to the extent permitted by placement of the test dummy's feet in accordance with the appropriate paragraph of S10. Center the test dummy on the seat cushion of the bucket seat and set its midsagittal plane so that it is vertical and parallel to the centerline of the vehicle.

S10.1.1 *Driver position placement.*

(a) Initially set the knees of the test dummy 11¾ inches apart, measured between the outer surfaces of the knee pivot bolt heads, with the left outer surface 5.9 inches from the midsagittal plane of the test dummy.

(b) Rest the right foot of the test dummy on the undepressed accelerator pedal with the rearmost point of the heel on the floor pan in the plane of the pedal. If the foot cannot be placed on the accelerator pedal, set it perpendicular to the lower leg and place it as far forward as possible in the direction of the geometric center of the pedal with the rearmost point of the heel resting on the floor pan. Except as prevented by contact with a vehicle surface, place the right leg so that the upper and lower leg centerlines fall, as close as possible, in a vertical longitudinal plane without inducing torso movement.

(c) Place the left foot on the toeboard with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toeboard and the floor pan. If the foot cannot be positioned on the toeboard, set it

perpendicular to the lower leg and place it as far forward as possible with the heel resting on the floor pan. Except as prevented by contact with a vehicle surface, place the left leg so that the upper and lower leg centerlines fall, as close as possible, in a vertical plane. For vehicles with a foot rest that does not elevate the left foot above the level of the right foot, place the left foot on the foot rest so that the upper and lower leg centerlines fall in a vertical plane.

S10.1.2 *Passenger position placement.*

S10.1.2.1 *Vehicles with a flat floor pan/toeboard.*

(a) Initially set the knees 11¾ inches apart, measured between the outer surfaces of the knee pivot bolt heads.

(b) Place the right and left feet on the vehicle's toeboard with the heels resting on the floor pan as close as possible to the intersection point with the toeboard. If the feet cannot be placed flat on the toeboard, set them perpendicular to the lower leg centerlines and place them as far forward as possible with the heels resting on the floor pan.

(c) Place the right and left legs so that the upper and lower leg centerlines fall in vertical longitudinal planes.

S10.1.2.2 *Vehicles with wheelhouse projections in passenger compartment.*

(a) Initially set the knees 11¾ inches apart, measured between outer surfaces of the knee pivot bolt heads.

(b) Place the right and left feet in the well of the floor pan/toeboard and not on the wheelhouse projection. If the feet cannot be placed flat on the toeboard, set them perpendicular to the lower leg centerlines and as far forward as possible with the heels resting on the floor pan.

(c) If it is not possible to maintain vertical and longitudinal planes through the upper and lower leg centerlines for each leg, then place the left leg so that its upper and lower centerlines fall, as closely as possible, in a vertical longitudinal plane and place the right leg so that its upper and lower leg centerlines fall, as closely as possible, in a vertical plane.

S10.2 *Vehicle equipped with bench seating.* Place a test dummy with its torso against the seat back and its upper legs against the seat cushion, to the extent permitted by placement of the test dummy's feet in accordance with the appropriate paragraph of S10.1.

S10.2.1 *Driver position placement.* Place the test dummy at the left front outboard designated seating position so that its midsagittal plane is vertical and parallel to the centerline of the vehicle and so that the midsagittal plane of the test dummy passes through the center of the steering wheel rim. Place the legs,

knees, and feet of the test dummy as specified in S10.1.1.

S10.2.2 Passenger position placement. Place the test dummy at the right front outboard designated seating position as specified in S10.1.2, except that the midsagittal plane of the test dummy shall be vertical and longitudinal, and the same distance from the vehicle's longitudinal centerline as the midsagittal plane of the test dummy at the driver's position.

S10.3 Initial test dummy placement. With the test dummy at its designated seating position as specified by the appropriate requirements of S10.1 or S10.2, place the upper arms against the seat back and tangent to the side of the upper torso. Place the lower arms and palms against the outside of the upper legs.

S10.4 Test dummy settling.

S10.4.1 Test dummy vertical upward displacement. Slowly lift the test dummy parallel to the seat back plane until the test dummy's buttocks no longer contact the seat cushion or until there is test dummy head contact with the vehicle's headlining.

S10.4.2 Lower torso force application. Using a test dummy positioning fixture, apply a rearward force of 50 pounds through the center of the rigid surface against the test dummy's lower torso in a horizontal direction. The line of force application shall be 6½ inches above the bottom surface of the test dummy's buttocks. The 50 pound force shall be maintained with the rigid fixture applying reaction forces to either the floor pan/toeboard, the 'A' post, or the vehicle's seat frame.

S10.4.3 Test dummy vertical downward displacement. While maintaining the contact of the horizontal rearward force positioning fixture with the test dummy's lower torso, remove as much of the 50 pound force as necessary to allow the test dummy to return downward to the seat cushion by its own weight.

S10.4.4 Test dummy upper torso rocking. Without totally removing the horizontal rearward force being applied to the test dummy's lower torso, apply a horizontal forward force to the test dummy's shoulders sufficient to flex the upper torso forward until its back no longer contacts the seat back. Rock the test dummy from side to side 3 or 4 times so that the test dummy's spine is at any angle from the vertical in the 14 to 16 degree range at the extremes of each rocking movement.

S10.4.5 Upper torso force application. With the test dummy's midsagittal plane vertical, push the upper torso against the seat back with a force of 50 pounds applied in a horizontal rearward direction along a line that is coincident with the test dummy's midsagittal plane and 18 inches above the bottom surface of the test dummy's buttocks.

S10.5 Placement of test dummy arms and hands. With the test dummy positioned as specified by S10.3 and without inducing torso movement, place the arms, elbows, and hands of the test dummy, as appropriate for each designated seating position in accordance with S10.3.1 or S10.3.2. Following placement of the arms, elbows and hands, remove the force applied against the lower half of the torso.

S10.5.1 Driver's position. Move the upper and the lower arms of the test dummy at the driver's position to their fully outstretched position in the lowest possible orientation. Push each arm rearward, permitting bending at the elbow, until the palm of each hand contacts the outer part of the rim of the steering wheel at its horizontal centerline. Place the test dummy's thumbs over the steering wheel rim and position the upper and lower arm centerlines as close as possible in a vertical plane without inducing torso movement.

S10.5.2 Passenger position. Move the upper and the lower arms of the test dummy at the passenger position to fully outstretched position in the lowest possible orientation. Push each arm rearward, permitting bending at the elbow, until the upper arm contacts the seat back and is tangent to the upper part of the side of the torso, the palm contacts the outside of the thigh, and the little finger is barely in contact with the seat cushion.

S10.6 Test dummy positioning for latchplate access. The reach envelopes specified in S7.4.4 are obtained by positioning a test dummy in the driver's seat or passenger's seat in its forwardmost adjustment position. Attach the lines for the inboard and outboard arms to the test dummy as described in Figure 3 of this standard. Extend each line backward and outboard to generate the compliance arcs of the outboard reach envelope of the test dummy's arms.

S10.7 Test dummy positioning for belt contact force. To determine compliance with S7.4.3 of this standard, position the test dummy in the vehicle in accordance with the appropriate requirements specified in S10.1 or S10.2 and under the conditions of S8.1.2 and S8.1.3. Pull the belt webbing three inches from the test dummy's chest and release until the webbing is within 1 inch of the test dummy's chest and measure the belt contact force.

S10.9 Manual belt adjustment for dynamic testing. With the test dummy at its designated seating position as specified by the appropriate requirements of S8.1.2, S8.1.3 and S10.1 through S10.5, place the Type 2 manual belt around the test dummy and fasten the latch. Remove all slack from the lap belt. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this operation four times. Apply a 2

to 4 pound tension load to the lap belt. If the belt system is equipped with a tension-relieving device introduce the maximum amount of slack into the upper torso belt that is recommended by the manufacturer for normal use in the owner's manual for the vehicle. If the belt system is not equipped with a tension relieving device, allow the excess webbing in the shoulder belt to be retracted by the retractive force of the retractor.

17. S11 is removed.

18. S4.1.3.1.1, S4.1.3.2.1, S4.1.3.3.1, S4.1.4 and S4.6.1 are revised by adding a new second sentence to S4.1.3.1.1, S4.1.3.2.1, S4.1.3.3.1 and S4.1.4 and a new second sentence to S4.6.1 to read as follows:

A vehicle shall not be deemed to be in non-compliance with this standard if its manufacturer establishes that it did not have reason to know in the exercise of due care that such vehicle is not in conformity with the requirement of this standard.

19. S8.1.5 is amended to read as follows:

Movable vehicle windows and vents are, at the manufacturer's option, placed in the fully closed position.

20. S7.4 is amended to read as follows:

S7.4. *Seat belt comfort and convenience.*

(a) *Automatic seat belts.* Automatic seat belts installed in any vehicle, other than walk-in van-type vehicles, which has a gross vehicle weight rating of 10,000 pounds or less, and which is manufactured on or after September 1, 1986, shall meet the requirements of S7.4.1, S7.4.2, and S7.4.3.

(b) *Manual seat belts.*

(1) *Vehicles manufactured after September 1, 1986.* Manual seat belts installed in any vehicle, other than manual Type 2 belt systems installed in the front outboard seating positions in passenger cars or manual belts in walk-in van-type vehicles, which have a gross vehicle weight rating of 10,000 pounds or less, shall meet the requirements of S7.4.3, S7.4.4, S7.4.5, and S7.4.6.

(2) *Vehicles manufactured after September 1, 1989.*

(i) If the automatic restraint requirement of S4.1.4 is rescinded pursuant to S4.1.5, then manual seat belts installed in a passenger car shall meet the requirements of S7.1.1.3(a), S7.4.2, S7.4.3, S7.4.4, S7.4.5, and S7.4.6.

(ii) Manual seat belts installed in a bus, multipurpose passenger vehicle and truck with a gross vehicle weight rating of 10,000 pounds or less, except for walk-in van-type vehicles, shall meet the requirements of S7.4.3, S7.4.4, S7.4.5, and S7.4.6.

571.209 *Standard No. 209, Seat belt assemblies.*

1. A new S4.6 is added, to read as follows:

S4.6 *Manual belts subject to crash protection requirements of Standard No. 208.*

(a) A seat belt assembly subject to the requirements of S4.6.1 of Standard No. 208 (49 CFR Part 571.208) does not have to meet the requirements of S4.2 (a)-(c) and S4.4 of this standard.

(b) A seat belt assembly that does not comply with the requirements of S4.4 of this standard shall be permanently and legibly marked or labeled with the following language:

This seat belt assembly may only be installed at a front outboard designated seating position of a vehicle with a gross vehicle weight rating of 10,000 pounds or less.

571.210 *Standard No. 210, Seat Belt Assembly Anchorages.*

1. The second sentence of S4.3 is revised to read as follows:

Anchorages for automatic and for dynamically tested seat belt assemblies that meet the frontal crash protection requirement of S5.1 of Standard No. 208 (49 CFR Part 571.208) are exempt from the location requirements of this section.

PART 585—AUTOMATIC RESTRAINT PHASE-IN REPORTING REQUIREMENTS

1. Chapter V, Title 49, Transportation, the Code of Federal Regulations, is amended to add the following new Part:

PART 585—AUTOMATIC RESTRAINT PHASE-IN REPORTING REQUIREMENTS

Secs.

585.1 Scope.

585.2 Purpose.

585.3 Applicability.

585.4 Definitions.

585.5 Reporting requirements.

585.6 Records.

585.7 Petition to extend period to file report.

Authority: 15 U.S.C. 1392, 1407; delegation of authority at 49 CFR 1.50.

585.1 *Scope.*

This section establishes requirements for passenger car manufacturers to submit a report, and maintain records related to the report, concerning the number of passenger cars equipped with automatic restraints in compliance with the requirements of S4.1.3 of Standard No. 208, *Occupant Crash Protection* (49 CFR Part 571.208).

585.2 *Purpose.*

The purpose of the reporting requirements is to aid the National Highway Traffic Safety Administration in determining whether a passenger car manufac-

turer has complied with the requirements of Standard No. 208 of this Chapter (49 CFR 571.208) for the installation of automatic restraints in a percentage of each manufacturer's annual passenger car production.

585.3 *Applicability.*

This part applies to manufacturers of passenger cars.

585.4 *Definitions.*

All terms defined in section 102 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1391) are used in their statutory meaning.

"Passenger car" is used as defined in 49 CFR Part 571.3.

"Production year" means the 12-month period between September 1 of one year and August 31 of the following year, inclusive.

585.5 *Reporting requirements.*

(a) *General reporting requirements.*

Within 60 days after the end of each of the production years ending August 31, 1987, August 31, 1988, and August 31, 1989, each manufacturer shall submit a report to the National Highway Traffic Safety Administration concerning its compliance with the requirements of Standard No. 208 for installation of automatic restraints in its passenger cars produced in that year. Each report shall—

- (1) Identify the manufacturer;
- (2) State the full name, title and address of the official responsible for preparing the report;
- (3) Identify the production year being reported on;
- (4) Contain a statement regarding the extent to which the manufacturer has complied with the requirements of S4.1.3 of Standard No. 208;
- (5) Provide the information specified in 585.5(b);
- (6) Be written in the English language; and
- (7) Be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

(b) *Report content.*

(1) *Basis for phase-in production goals.*

Each manufacturer shall provide the number of passenger cars manufactured for sale in the United States for each of the three previous production years, or, at the manufacturer's option, for the current production year. A new manufacturer that is, for the first time, manufacturing passenger cars for sale in the United States must report the number of passenger cars manufactured during the current production year.

(2) *Production.*

Each manufacturer shall report for the production year being reported on, and each preceding production year, to the extent that cars produced during the preceding years are treated under Standard No. 208 as having been produced during the production year being reported on, the following information:

- (i) the number of passenger cars equipped with automatic seat belts and the seating positions at which they are installed,
- (ii) the number of passenger cars equipped with air bags and the seating positions at which they are installed, and
- (iii) the number of passenger cars equipped with other forms of automatic restraint technology, which shall be described, and the seating positions at which they are installed.

(3) *Passenger cars produced by more than one manufacturer.*

Each manufacturer whose reporting of information is affected by one or more of the express written contracts permitted by section S4.1.3.5.2 of Standard No. 208 shall:

- (i) Report the existence of each contract, including the names of all parties to the contract, and explain how the contract affects the report being submitted,
- (ii) Report the actual number of passenger cars covered by each contract.

585.6 *Records.*

Each manufacturer shall maintain records of the Vehicle Identification Number and type of automatic restraint for each passenger car for which information is reported under 585.5(b)(2), until December 31, 1991.

585.7 *Petition to extend period to file report.*

A petition for extension of the time to submit a report must be received not later than 15 days before expiration of the time stated in 585.5(a). The petition must be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC 20590. The filing of a petition does not automatically extend the time for filing a report. A petition will be granted only if the petitioner shows good cause for the extension and if the extension is consistent with the public interest.

Issued on March 18, 1986

Diane K. Steed
Administrator

51 F.R. 9801
March 21, 1986



PREAMBLE TO AN AMENDMENT TO PART 585

Automatic Restraint Phase-In Reporting Requirement (Docket No. 17-14; Notice 59)

ACTION: Technical amendment.

SUMMARY: NHTSA inadvertently omitted a relevant statutory section from the authority citation for the automatic restraint phase-in reporting regulation. This notice corrects that error.

DATE: The amendment made by this notice takes effect September 11, 1988.

SUPPLEMENTARY INFORMATION: On March 21, 1986, NHTSA published a final rule establishing a new 49 CFR Part 585, *Automatic Restraint Phase-In Reporting Requirements* (51 FR 9800). In that rule, the agency listed the authority for Part 585 as 15 U.S.C. 1392 and 1407, with the delegation of authority at 49 CFR 1.50.

This authority citation inadvertently omitted the principal statutory source of NHTSA's authority to impose recordkeeping requirements on manufacturers and other persons subject to the National Traffic and Motor Vehicle Safety Act (the Safety Act). That statutory section is 15 U.S.C. 1401, subsection (b) of which specifies that:

Every manufacturer of motor vehicles . . . shall establish and maintain such records and every manufacturer . . . shall make such reports, as the Secretary may reasonably require to enable him to determine whether such manufacturer . . . has acted or is acting in compliance with

this title or any rules, regulations, or orders issued thereunder . . .

This notice amends the authority citation for Part 585 by adding 15 U.S.C. 1401 to the statutory sections listed in the authority citation. This amendment merely clarifies the source of NHTSA's authority to establish the reporting and recordkeeping requirements in Part 585. This amendment does not alter any manufacturer's existing responsibilities under Part 585, nor does it impose reporting and recordkeeping requirements on manufacturers not currently subject to Part 585. Accordingly, NHTSA finds for good cause that notice and opportunity for comment on this amendment are unnecessary.

In consideration of the foregoing the authority citation for 49 CFR Part 585 is revised as follows:

Authority: 15 U.S.C. 1392, 1401, 1407; delegation of authority at 49 CFR 1.50.

Issued on August 9, 1988.

Diane K. Steed
Administrator

53 F.R. 30.434
August 12, 1988

MOTOR VEHICLE SAFETY STANDARD NO. 585
Automatic Restraint Phase-In Reporting Requirements
(Docket No. 74-14; Notice 43)

Authority: 15 U.S.C. 1392, [1401] 1407; delegation of authority at 49 CFR 1.50.

S1. Scope.

This section establishes requirements for passenger car manufacturers to submit a report, and maintain records related to the report, concerning the number of passenger cars equipped with automatic restraints in compliance with the requirements of S4.1.3 of Standard No. 208, *Occupant Crash Protection* (49 CFR Part 571.208).

S2. Purpose.

The purpose of the reporting requirements is to aid the National Highway Traffic Safety Administration in determining whether a passenger car manufacturer has complied with the requirements of Standard No. 208 of this Chapter (49 CFR 571.208) for the installation of automatic restraints in a percentage of each manufacturer's annual passenger car production.

S3. Applicability.

This part applies to manufacturers of passenger cars.

S4. Definitions.

(a) All terms defined in section 102 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1391) are used in their statutory meaning.

(b) "Passenger car" means a motor vehicle with motive power, except a multipurpose passenger vehicle, motorcycle, or trailer, designed for carrying 10 persons or less.

(c) "Production year" means the 12-month period between September 1 of one year and August 31 of the following year, inclusive.

S5. Reporting requirements.

(a) *General reporting requirements.*

Within 60 days after the end of each of the production years ending August 31, 1987, August 31, 1988, and August 31, 1989, each manufacturer shall submit a report to the National Highway Traffic Safety Administration concerning its compliance with the requirements of Standard No. 208 for installation of automatic restraints in its passenger cars produced in that year. Each report shall—

(1) Identify the manufacturer;

(2) State the full name, title and address of the official responsible for preparing the report;

(3) Identify the production year being reported on;

(4) Contain a statement regarding the extent to which the manufacturer has complied with the requirements of S4.1.3. of Standard No. 208;

(5) Provide the information specified in 585.5(b);

(6) Be written in the English language; and

(7) Be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, D.C. 20590.

(b) *Report content.*

(1) *Basis for phase-in production goals.* Each manufacturer shall provide the number of passenger cars manufactured for sale in the United States for each of the three previous production years, or, at the manufacturer's option, for the current production year. A new manufacturer that is, for the first time, manufacturing passenger cars for sale in the United States must report the number of passenger cars manufactured during

the current production year. [For the purpose of the reporting requirements of this Part, a manufacturer may exclude its production of convertibles, which do not comply with requirements of S4.1.2.1 of Part 571.208 of this Chapter, from the report of its production volume of passenger cars manufactured for sale in the United States. (51 F.R. 37028—October 17, 1986. Effective: November 17, 1986)]

(2) *Production.* Each manufacturer shall report for the production year being reported on, and each preceding production year, to the extent that cars produced during the preceding years are treated under Standard No. 208 as having been produced during the production year being reported on, the following information:

(i) the number of passenger cars equipped with automatic seat belts and the seating positions which they are installed,

(ii) the number of passenger cars equipped with air bags and the seating positions at which they are installed, and

(iii) the number of passenger cars equipped with other forms of automatic restraint technology, which shall be described, and the seating positions at which they are installed.

(3) *Passenger cars produced by more than one manufacturer.* Each manufacturer whose reporting of information is affected by one or more of the express written contracts permitted by section S4.1.3.5.2 or Standard No. 208 shall:

(i) Report the existence of each contract, including the names of all parties to the contract, and explain how the contract affects the report being submitted,

(ii) Report the actual number of passenger cars covered by each contract.

S6. Records.

Each manufacturer shall maintain records of the Vehicle Identification Number and type of automatic restraint for each passenger car for which information is reported under 585.5(b)(2), until December 31, 1991.

S7. Petition to extend period to file report.

A petition for extension of the time to submit a report must be received not later than 15 days before expiration of the time stated in 585.5(a). The petition must be submitted to Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, D.C. 20590. The filing of a petition does not automatically extend the time for filing a report. A petition will be granted only if the petitioner shows good cause for the extension and if the extension is consistent with the public interest.

Issued on March 18, 1986.

Diane K. Steed
Administrator

F.R. 51 9801
March 21, 1986

PREAMBLE TO PART 590—MOTOR VEHICLE EMISSIONS INSPECTION CRITERIA

(Docket No. 72-24; Notice 2)

This notice issues a regulation to establish emissions inspection criteria for a diagnostic inspection demonstration projects funded pursuant to the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1901, *et seq.*). The regulation is based upon a notice of proposed rulemaking published June 11, 1974 (39 F.R. 20501) and upon comments submitted in response to the notice, and is issued in consultation with the Administrator of the Environmental Protection Agency.

Under Title 15 U.S.C., Section 1962(a), a State may obtain a grant from the Federal government for the purpose of establishing and operating a diagnostic inspection demonstration project. The purpose of the grant program is to explore the feasibility of using diagnostic test devices to conduct diagnostic safety and emission inspection of motor vehicles. The demonstration projects are also designed to help the Federal and State governments determine the best means of structuring safety and emissions inspection programs. Pursuant to the requirements of section 1962(b), this rule establishes emissions inspection criteria to be met by projects funded under this program. The criteria established govern the manner of operation of five Federally-funded State diagnostic inspection demonstration projects to be conducted in Alabama, Arizona, the District of Columbia, Puerto Rico, and Tennessee, and do not, in themselves, impose requirements on any other State or upon any individual.

The subject most commonly discussed in the comments was whether a loaded test mode or a high speed no load test mode would be more effective than the basic idle-only mode inspection procedure in detecting vehicles with very high emission levels and in diagnosing problems. Because this program calls for demonstration projects and is in the nature of a feasibility

study, the NHTSA considers that the most appropriate course is to compare the alternative procedures and, in this way, generate data which may ultimately resolve the question. Accordingly, the States will be allowed to choose between loaded-mode and no-load inspection procedures. For similar reasons no-load inspection procedures will include both low and high speed measurements until such time as the data collected indicates that unloaded high-speed measurements are unwarranted.

Since one of the major purposes of the program is to determine whether this type of inspection is both feasible and cost beneficial, the criteria do not specify that the emission levels be the lowest attainable, but represent a fair balance between low rejection rates which would result in limited program effectiveness and high rejection rates which would result in adverse public reaction. In the event that the actual rejection rate varies significantly from our estimate of approximately 30 percent, the emissions criteria will be modified to bring the rate to the desired level. Because the emission criteria are less stringent than those permitted under the Federal Emission Certification Test criteria, it is not anticipated that conflicting requirements on engine design will result from their application in this program.

Two comments were addressed to the point that the mechanical dynamometer suggested for use in the loaded mode inspection may not simulate normal road loading as well as an electric dynamometer. The purpose of the dynamometer is to provide an adequate load to the engine to allow detection of carburetor main and power circuit malfunctions and ignition misfiring under load. Because this function does not require true road load duplication NHTSA does not consider that the more expensive electric dynamometer should be required.

General Motors Corporation suggested that oxides of nitrogen (NO_x) measurement be included in the emission inspection criteria. The Environmental Protection Agency recommended waiting until such time as NO_x controlled vehicles account for a more significant part of the vehicle population in order to make such a program meaningful. NO_x measuring instruments suitable for this type of inspection have not been developed to a point where low cost, reliable instruments are readily available. Furthermore, tuning a car without NO_x controls tends to increase the NO_x emissions slightly while reducing the hydrocarbon and carbon monoxide emissions. Therefore, NHTSA agrees with the EPA that until newer vehicles with NO_x control devices begin to account for a more substantial part of the overall vehicle population, the level of reduction of emissions of oxides of nitrogen that might be obtained is not large enough to warrant the inclusion of NO_x inspection at this time.

While the criteria developed in this rulemaking would be appropriate for emissions inspection of light duty trucks and other light duty vehicles, NHTSA has decided not to include these vehicles in the data pool for the demonstration projects. The rule requires that the idle speed of the vehicle at the time of inspection must not be more than 100 rpm greater than that recommended by the manufacturer. The purpose of this requirement is to ensure that

high idle speeds are not masking excessive idle carbon monoxide levels. At the suggestion of the American Motors Corporation the units of measure for proposed emission levels are more specifically identified than in the notice of proposed rulemaking. The unit of measurement of carbon monoxide concentration is Mole percent, while that for hydrocarbon concentration is ppm as hexane.

Therefore, a new Part 590, Motor Vehicle Emission Inspections, is added in Chapter V, Title 49, Code of Federal Regulations. . . .

Effective date: This part becomes effective July 5, 1975. The notice of proposed rulemaking had proposed an effective date 30 days after issuance of the final rule. Because the five States that have received grants have all developed their emission inspection in accordance with the proposed criteria, they will not be adversely affected by an immediate effective date. Good cause is accordingly found for an immediate effective date.

(Section 302(b)(1), Pub. L. 92-513, 86 Stat 947, 15 U.S.C. 1901; delegation of authority at 49 CFR 1.51.)

Issued on June 5, 1975.

James B. Gregory
Administrator

40 F.R. 24904
June 11, 1975

PART 590—EMISSION INSPECTIONS

§ 590.1 Scope.

This part specifies standards and procedures for motor vehicle emission inspections by State or State-supervised diagnostic inspection demonstration projects funded under Title III of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1901, *et seq.*).

§ 590. Purpose.

The purpose of this part is to support the development of effective regulation of automobile exhaust emissions and thereby improve air quality, by establishing appropriate uniform procedures for diagnostic emission inspection demonstration projects.

§ 590.3 Applicability.

This part does not impose requirements on any person. It is intended to be utilized by State diagnostic inspection demonstration projects operating under Title III of the Cost Savings Act for diagnostic emission inspections of passenger cars powered by spark-ignition engines.

§ 590.4 Definitions.

All terms used in this part that are defined in 49 CFR Part 571, Motor Vehicle Safety Standards, are used as defined in that Part.

§ 590.5 Requirements.

A diagnostic inspection demonstration project shall test vehicles in accordance with either the no-load inspection criteria specified in section 590.6, or the loaded-mode inspection criteria specified in section 590.7.

§ 590.6 No-load inspection.

(a) *Criteria.* The vehicle must meet the following criteria when tested by the no-load inspection method.

(1) The vehicle's idle speed, measured with the transmission in the position recommended by the manufacturer for adjusting the idle speed, shall not be more than 100 rpm higher than the idle speed recommended by the manufacturer.

(2) Concentrations of emission samples taken from each exhaust outlet shall not exceed the following levels:

(i) For model years 1967 and earlier: hydrocarbons (HC) 1200 ppm as hexane, and carbon monoxide (CO) 9.0 mole percent.

(ii) For model years 1968 through 1973: HC 600 ppm as hexans, and CO 7.0 mole percent.

(b) *Method.* No-load inspection is conducted by measuring two emission samples from each exhaust outlet. The first emission sample is collected with the vehicle's transmission in neutral and the engine operating at 2250 rpm. The second sample is collected with the vehicle's transmission in the position recommended by the manufacturer for adjusting the idle speed, and the engine idling.

§ 590.7 Loaded-mode inspection.

(a) *Criteria.* When the loaded-mode inspection is conducted, concentrations of the emission samples taken from each exhaust outlet for each of the three phases of the driving cycle in Table I, conducted in the sequence indicated, shall not exceed the levels given in Table II. For the purpose of determining the weight classification of a motor vehicle for the loaded-mode inspection, 300 pounds are added to the vehicle's unladen curb weight.

(b) *Method.* Loaded-mode inspection for the first two phases of the driving cycle described in Table I is conducted by measuring the levels of emission concentrations from each exhaust outlet

TABLE I

Curb weight plus 300 lbs	Driving cycle (speed-load combination)		
	1st phase high cruise	2d phase low cruiser	3d phase idle
3,801 lbs and up	48 to 50 mi/h at 27 to 30 hp	32 to 35 mi/h at 10 to 12 hp	At idle.
2,801 to 3,800 lbs	44 to 46 mi/h at 21 to 24 hp	29 to 32 mi/h at 8 to 10 hp	Do.
2,000 to 2,800 lbs	36 to 38 mi/h at 13 to 15 hp	22 to 25 mi/h at 4 to 6 hp	Do.

TABLE II

High cruise	Low cruise	Idle
1967 and earlier model years		
HC 900 ppm as hexane	HC 900 ppm as hexane	HC 1,200 ppm as hexane
CO 4.5 mole percent	CO 5.5 mole percent	CO 9.0 mole percent
1968 through 1973		
HC 450 ppm as hexane	HC 450 ppm as hexane	HC 600 ppm as hexane
CO 3.75 mole percent	CO 4.25 mole percent	CO 7.0 mole percent

of a motor vehicle operated on a chassis dynamometer, with the vehicle's transmission in the setting recommended by the vehicle manufacturer for the speed-load combination being tested. For the idle phase, vehicles with automatic transmissions are tested in drive, and vehicles with standard transmissions are tested in neutral.

§ 590.8 Inspection conditions.

(a) The vehicle engine is at its normal operating temperature, as specified by the vehicle manufacturer.

(b) An engine speed indicator with a graduated scale from zero to at least 2500 rpm is used for the unloaded inspection procedure.

(c) The equipment used for analyzing the emission concentration levels—

(1) Has a warm-up period not to exceed 30 minutes;

(2) Is able to withstand sustained periods of continuous use;

(3) Has a direct and continuous meter readout that allows readings for concentration levels of carbon monoxide (CO) from 0–10 mole percent, and of hydrocarbon (HC from 0–2000 ppm as hexane; and if used for the loaded-mode inspection, has at least one additional expanded direct and continuous readout for concentration levels of carbon monoxide and of hydrocarbon, such as from 0–5 mole percent and from 0–1000 ppm as hexane respectively;

(4) Has an accuracy of better than $\pm 5\%$ of the full scale reading for each concentration range;

(5) Permits a reading for each emission concentration level, within 10 seconds after the emission sample has been taken, that is not less than 90% of the final reading; and

(6) Has a calibration system using a standard gas, or an equivalent mechanical or electrical calibration system itself is based on a standard gas.

40 F.R. 24904
June 11, 1975

PREAMBLE TO PART 591

Importation of Vehicles and Equipment Subject to Federal Motor Vehicle Safety Standards (Docket No. 89-5; Notice 2) RIN: 2127-AD00

ACTION: Final rule.

SUMMARY: The purpose of this rule is to adopt procedures that will govern the importation of motor vehicles and equipment subject to Federal safety standards on and after January 31, 1990. This rule supersedes the existing joint regulation of the Departments of Treasury and Transportation on this subject, 19 CFR 12.80, which has been in effect since 1968. In most instances, the new rules are mandated by the Imported Vehicle Safety Compliance Act of 1988, and primarily affect importation of motor vehicles not manufactured to comply with the Federal motor vehicle safety standards. Requirements concerning vehicles and equipment that conform to the Federal safety standards, and nonconforming equipment, remain unchanged.

The Supplementary Information of this notice contains a full discussion of the present regulation, the proposal, and the changes made in response to that proposal.

EFFECTIVE DATE: January 31, 1990.

SUPPLEMENTARY INFORMATION: Although NHTSA provided a full discussion of the proposed amendments in its prior proposal, it is repeating much of that discussion in this notice because of the major changes that the rule occasions, and the need that interested persons be fully informed as to the changes and their effect upon importation procedures that have been in effect for over 20 years.

On October 31, 1988, the President signed P.L. 100-562, the Imported Vehicle Safety Compliance Act of 1988 ("the 1988 Act"). Notice of its enactment was published by the agency in the *Federal Register* on December 5, 1988 (53 FR 49003), and a notice of proposed rulemaking to establish Part 591 was published on April 25, 1989 (54 FR 17772). As the notice stated, the 1988 Act amends those provisions of the National Traffic and Motor Vehicle Safety Act of 1966 ("the Vehicle Safety Act") that relate to the importation of motor vehicles subject to the Federal motor vehicle safety standards (section 108(b), 15 U.S.C. 1397(b)).

Specifically, the 1988 Act revokes sections 108(b)(3), and (b)(4) of the Vehicle Safety Act, effective January 31, 1990. These sections authorized the issuance of regulations jointly by the Secretaries of Transportation and Treasury to prohibit the importation of motor vehicles and equipment not complying with the Federal motor vehicle safety standards, except under such terms and conditions as may appear to them appropriate to ensure that a noncomplying vehicle or equipment item will be brought into conformance or will be exported or abandoned to the United States. The temporary admission of nonconforming used vehicles and equipment items by exempted persons was also permitted. Pursuant to this authority, the two Secretaries issued an implementing regulation, 19 CFR 12.80, which has governed the importation of merchandise subject to Federal motor vehicle safety standards since 1968, and will continue to do so through January 31, 1990.

Under the 1988 Act, new sections (c) through (j) are added to section 108 to replace revoked sections (b)(3) and (b)(4). The authority to issue joint regulations is replaced by a rulemaking authority vested alone in the Secretary of Transportation (and delegated to NHTSA through existing delegation of authority).

The purpose of this notice is to promulgate a final rule to implement the 1988 Act, and to explain how importation of motor vehicles and equipment will be affected by this new authority. First, the existing regulation, 19 CFR 12.80, will continue to be a regulation under the joint authority of the two Departments with respect to the importation provisions of the Motor Vehicle Information and Cost Savings Act under which the Bumper Standard (49 CFR Part 581) and the Theft Prevention Standard (49 CFR Part 541) were issued. With respect to the Vehicle Safety Act, however, the new NHTSA regulation, 49 CFR Part 591, will become the primary importation regulation, and 19 CFR 12.80 will become the conforming regulation of the U.S. Customs Service. In the future, substantive changes to importation procedures will be effected by NHTSA alone, through amendments to Part 591, and Customs will make conforming amendments to 19 CFR 12.80, as required.

A similar relationship presently exists between regulations of the Environmental Protection Agency ("EPA") and Customs (*see*, respectively, 40 CFR 85.1501 *et seq.* and 19 CFR 12.73). This relationship has established a precedent for Customs to amend its regulations without notice and opportunity for comment on the basis that full notice and opportunity had been offered by EPA in promulgating its regulations, and that the amendments by Customs were merely conforming in nature (*See* 53 FR 26240).

In establishing Part 591, NHTSA has attempted to formulate a program that will ensure that all imported motor vehicles conform to the Federal motor vehicle safety standards without imposing unnecessary burdens on importers. Therefore, NHTSA has tried in this rule to impose only those requirements that are mandated by the 1988 Act, with amplifications only where it appeared necessary to implement the safety intent of the statute.

In response to the proposal published on April 25, 1989, NHTSA received 19 written comments, and, as well, several inquiries by telephone. Seven comments were received from the following motor vehicle manufacturers: BMW of North America, Freightliner Corp., Austin Rover Cars of North America, General Motors Corp., Volkswagen of America, Ford Motor Co., and Chrysler Corp. Five comments were received from the following manufacturing firms in Canada: Intercontinental Truck Body Ltd., Barber Industries Ltd., Cancade Co., Western-Hydro Air Drilling Ltd., and Canterra Equipment Inc. Also commenting from Canada was an import/export consulting firm, All Alta. Agencies Ltd. Two comments were received from importers of vehicles not originally manufactured to conform to Federal motor vehicle safety standards: U.S. Trade Corp. and Auburn Motors/Superior Auto Sales (whose submission was supported by the National Federation of Independent Businesses). Two comments were received from trade organizations: National Automobile Dealers Association and The Dealer Action Association. Written comments were submitted by the State of Texas, and a private citizen, George Ziolo. During the pendency of the rulemaking action, questions were raised in telephone conversations, reported to the Docket, and these will be addressed in this notice where appropriate.

The principal paragraphs of Part 591 are those dealing with the importer's declarations (591.5), documents accompanying declarations (591.6), and restrictions upon importation and bond requirements (591.7). As paragraphs 591.6 and 591.7 relate directly to paragraph 591.5, issues that were raised in connection with them will be discussed in the appropriate portions of paragraph 591.5.

IMPORTATION OF MOTOR VEHICLES

Under existing 12.80, a motor vehicle offered for importation into the United States is admitted pursuant

to one of nine declarations regarding the status of the vehicle in relation to the motor vehicle safety and bumper standards (12.80 is in the process of being amended to incorporate reference to the theft prevention standard). The requirements of the 1988 Act affect some of these declarations, and establish new exceptions. A discussion of these changes follows.

1. The vehicle is not a "motor vehicle".

Under 19 CFR 12.80(b)(1)(viii), a vehicle is not required to be brought into compliance if it is not a motor vehicle as defined by the Vehicle Safety Act, *i.e.*, if it is not "designed primarily for use on the public streets, roads, and highways" (15 U.S.C. 1391(3)). Because of the uncertainty regarding certain types of vehicles (*e.g.*, golf carts, construction equipment) NHTSA has required that all importers of self-propelled wheeled vehicles execute a declaration, which has allowed the agency to review the status of vehicles for which an exemption is claimed, and to require re-entry as a nonconforming vehicle when it disagrees with the importer's assessment that the vehicle is not subject to the Federal motor vehicle safety standards. This exemption remains (paragraph 591.5(a)(i)) because this agency has no jurisdiction regarding non-motor vehicles under the Vehicle Safety Act and the 1988 Act makes no jurisdictional change. There were no comments on this issue.

2. The vehicle conforms and is so certified.

Under the existing regulation, a motor vehicle is allowed immediate entry without the posting of bond upon a declaration that it conforms to all applicable Federal motor vehicle safety standards and bears a certification label to that effect permanently affixed by the original manufacturer (12.80(b)(1)(ii)). This same paragraph also allows immediate entry if a vehicle is only technically noncompliant, *i.e.*, because readily attachable equipment items are not attached, but will be installed before the vehicle is offered for sale.

The 1988 Act makes no change affecting this category of importation. The agency interprets the new amendments, however, as imposing new restrictions upon the importation of vehicles that may have been conformed prior to entry but bear a certification by a person other than the original manufacturer. The 1988 Act amends 15 U.S.C. 1397(a)(1)(A) to add the words "and is covered by a certification issued under section 114" as an addition to the existing requirement that a vehicle may not be imported "unless it is in conformity." A certification issued under section 114 is that of the "manufacturer", the entity which is responsible for the original assembly of the vehicle, and not that of a converter, whose operation consist of alterations to a previously assembled vehicle. To reflect this amendment, the agency proposed, and is now adopting, a definition of the term "original manufacturer" (paragraph 591.4) which excludes converters outside the United States who certify and

conform vehicles to the standards after the vehicles have been manufactured in fully assembled form by a person other than the converter. The agency believes that the 1988 Act justifies this interpretation. The definition was specifically supported by The Dealer Action Association. An interpretation that would allow entry of a vehicle pursuant to a declaration of conformity and a certification by a person other than its original manufacturer could well result in the importation of vehicles for which the Administrator had made no determination of capability of modification to meet Federal standards, and defeat the purpose of the 1988 Act. However, even if the converted vehicle is one that the Administrator has deemed eligible for entry and is certified as conforming by its converter, under Part 591 it must enter the country only through a registered importer (or through one who has a contract with a registered importer), under bond, and its compliance must be established after entry in accordance with the new procedures.

One commenter, U.S. Trade Corp., though headquartered in the U.S., apparently owns a conversion facility in Germany. Assuming that it will become a registered importer, it commented that it ought to be able to import its converted vehicles without bond, provided that it submitted documentation to NHTSA 30 days in advance of the arrival of its vehicles. NHTSA notes, however, that these are vehicles imported pursuant to 15 U.S.C. 1397(c)(3), and paragraph (c)(2) specifically requires a bond to be furnished "in the case of any motor vehicle imported under paragraph (3) . . ." Though sympathetic to U.S. Trade Corp.'s desire for expedited treatment, NHTSA believes that it is contrary to the 1988 Act for it to receive certification from an importer in advance of the arrival of a vehicle. Section 1397(c)(3)(E)(i) allows a registered importer to release custody of a vehicle 30 days after certification to the Secretary (if the Secretary has not in the interim demanded an inspection of the vehicle). Acceding to U.S. Trade Corp.'s request for early submission of certification could result in the 30-day period expiring before arrival of the vehicle in the U.S., and its immediate release from custody upon entry. NHTSA does not deem it desirable to demand *pro forma* an inspection of each such vehicle to delay its release from custody. Accordingly, it is informing U.S. Trade Corp. and others who are contemplating becoming registered importers that it will not accept certification data in advance of the arrival of a vehicle in the United States, and that the earliest date on which certification documentation may be submitted is the date of the importation declaration. Consequently, a motor vehicle that has been modified by a registered importer after its manufacture and before entry, will be treated as a nonconforming motor vehicle, and subject to the same entry requirements as a nonconforming vehicle.

Although the exclusory language in the definition of "Original manufacturer" remains as proposed, a modification has been made in the preliminary portion which defined the term as "the entity responsible for the original design, engineering, and manufacturer of a motor vehicle. . . ." Volkswagen commented that the definition was overly restrictive by its inclusion of design and engineering, and recommended a definition that would be consistent with the definition of "manufacturer" in the Vehicle Safety Act (15 U.S.C. 1391(5)). NHTSA concurs with this analysis and recommendation. The agency is aware that on occasion a vehicle manufacturer in one country may contract with a firm in another for design and engineering studies for future production vehicles. Accordingly, the preliminary portion of the final definition reads "the entity responsible for the original manufacture or assembly of a motor vehicle. . . ." VW also recommended that the definition include motor vehicle equipment. The agency has not adopted this recommendation, as the amendments of the 1988 Act do not affect motor vehicle equipment.

Other issues regarding interpretations of conformity were raised by commenters. Canadian companies who appeared to be final stage manufacturers, and who were concerned that their vehicles would be treated as "nonconforming" under the amendments, asked for a clarification. The agency wishes to reassure these commenters that the new requirements do not affect final stage manufacturers outside the United States who complete chassis-cabs manufactured and certified in the United States, and certify compliance of the finished vehicle with those U.S. Federal motor vehicle safety standards for which the manufacturer of the chassis-cab has not previously furnished certification. The final stage manufacturer is and remains the "original manufacturer" for purposes of the certification that it furnishes, and vehicles certified by Canadian final stage manufacturers will be admissible as conforming vehicles under new paragraph 591.5(b).

With respect to vehicles certified as conforming to the Canadian motor vehicle safety standards, Auburn Motor/Superior Auto Sales, importers of such vehicles, commented that NHTSA had not addressed the issue of vehicles manufactured to meet the Federal motor vehicle safety standards, but which may not be so certified. In their view, Canadian vehicles do meet the U.S. standards, and special accommodation should be provided for them. Auburn/Superior cited *The Free Trade Act* between Canada and the United States in support, as well as a settlement with EPA which was published in the *Federal Register* on July 8, 1988 (53 FR 25331), which, according to Auburn/Superior recognized the identity of standards. After reviewing Auburn/Superior's comments, NHTSA cannot concur with the conclusion that a special accommodation

ought to be made. In many respects, the Canadian standards may be identical, but they also differ in certain other significant respects. For example, the Canadian vehicle lighting standard allows the use of headlamps meeting ECE standards. Federal Motor Vehicle Safety Standard No. 108 does not allow the use of European light sources, or of replaceable bulb headlamps that do not meet stringent environmental standards which are not specified in European regulations. Another example: the Canadian standard on controls and displays requires the use of metric speedometers and odometers; the primary U.S. requirement is that they be in miles per hour, though metric markings are permissible. The fact that similarity exists between the standards of the two nations today does not preclude either the U.S. or Canada from adopting significantly different ones in the future, as allowed by Article 603 of *The Free Trade Act*, if the demonstrable purpose is to achieve a legitimate domestic objective, such as enhancement of the public safety. The EPA "settlement" cited by Auburn/Superior was, in fact, simply a 3-month conditional stay of the applicability of that agency's new importation regulation, to expire October 1, 1988, based upon a petition for reconsideration of the rule. NHTSA notes that only one Federal standard was involved, engine emission, and that the Federal safety standards are far greater in number. Even if vehicles certified to the Canadian safety standards do meet U.S. emission requirements, that fact is of no relevance to the quantum of compliance with the U.S. safety standards. A manufacturer's certification attached to a vehicle remains the statutorily approved method of establishing a presumption of compliance with the U.S. safety standards.

A telephone call was received from Barry Wood, a customs broker, about the treatment of reentry into the United States of a used certified vehicle that was driven to Canada for modifications involving the installation of a different load-carrying structure. An associated issue is the treatment of new certified vehicles sent to Canada for modification requiring the affixation of an alterer's certificate as required by 49 CFR 567.7. NHTSA replies that the thrust of the 1988 Act is to regulate vehicles that were not originally manufactured to comply with Federal safety standards, and not to ensure continuing compliance of those that were. Assuming that the original manufacturer's certification remains affixed to an altered vehicle, whether that vehicle is new or used, the vehicle should be readmitted to the United States under paragraph 591.5(b) as a conforming vehicle. Of course, the U.S. owner/importer should ensure with the Canadian alterer that its modifications do not result in changes (such as installation of tinted glass that may not conform with Standard No. 205, or an increase in GVWR) that would raise a question of conformity with

the U.S. Customs Service, so as to delay reentry, or require its readmission as a nonconforming vehicle in spite of the presence of its certification label.

Ford Motor Company raised the issue of discovery in transit of a noncompliance in vehicles it imports from abroad for sale under its nameplate, but which are manufactured and certified by a second party. Ford stated that Part 591 ought to permit importation for modification by Ford as the agent of the foreign manufacturer, and asked that the final rule allow such modifications to be made in the U.S., or confirmation that the rule already allows it. The agency's analysis differs from Ford's although its conclusion should meet Ford's concern. Where a noncompliance is discovered in transit, NHTSA believes that only a technical violation of the Vehicle Safety Act would occur with the importation of a motor vehicle certified as conforming to the safety standards, but in fact known to the importer to be noncompliant with at least one of them. As an importer for resale, Ford becomes the "manufacturer" under the Vehicle Safety Act and responsible for all notification and remedial responsibilities imposed by that Act. Thus, it will be required to file a Part 573 Noncompliance Report with NHTSA not later than 5 days after its determination of the existence of the noncompliance. As the Act forbids sale of a nonconforming vehicle, Ford will be under a legal obligation to remedy the noncompliance before it is sold. Provided that the noncompliance is corrected before the vehicles are offered for sale, there would appear to be no harm to the public safety by allowing the importation.

The agency responds similarly to a comment by General Motors. Under the proposal, a technically noncompliant vehicle could be admitted pursuant to the declaration that "the vehicle will conform when readily attachable equipment items carried within it are attached." This represents a slight departure from the current declaration which does not require the equipment items to be carried within the vehicle. GM points out that it may well be that components will be added from domestic sources prior to sale, or arrive from abroad by separate shipments. Because of the importer's legal obligation not to offer a vehicle for sale in a noncompliant condition, it is irrelevant whether or not the equipment items are carried within the vehicle, and NHTSA has eliminated the proposed restriction from the final rule, adopting language virtually identical to that presently existing in 12.80(b)(1)(ii). GM also suggested that a manufacturer's "agents" be permitted to attach the detached equipment items. Given the fact that the vehicle must fully comply when offered for sale, NHTSA believes that the answer must be a practical one, and that the items may be attached by the manufacturer or the dealer, as appears best.

One further comment regarding paragraph 591.5(b) resulted in minor modifications in the final rule. Under

the proposal, the vehicle or equipment item to be imported must bear a certification label or tag affixed by the original manufacturer "to the vehicle or to the equipment item or its container." NADA commented that the language could be construed as allowing certification of vehicles on vehicle containers rather than on the vehicle itself. To meet this concern, NHTSA has placed a comma between the word "vehicle" and the disjunctive "or." In agreement with NADA's suggestion that the paragraph contain an appropriate citation to labeling regulations as is currently done in 12.80, NHTSA has added the statutory references. This should help clarify that the labeling requirement remains the same in spite of the advent of a new importation regulation.

3. *The vehicle is intended solely for export.*

A nonconforming vehicle is allowed immediate entry without bond upon the declaration that the importation is solely for purposes of export, and bears a label to that effect (12.80(b)(1)(iv)). This declaration is allowed pursuant to a specific statutory exclusion in the Vehicle Safety Act, section 108(b)(5). Under the 1988 Act, the section becomes 108(b)(3), but is otherwise unchanged, and the exclusion remains (Paragraph 591.5(c)). There were no comments on this issue.

4. *Nonresident temporary importations.*

If the importer is a nonresident of the United States and is importing the nonconforming vehicle primarily for personal use for a period of 1 year or less, the current regulations allow entry without bond and conformance, but the declaration must also state that the importer will not sell the nonconforming vehicle in the United States during that period (12.80(b)(1)(v)). There is no similar provision in the 1988 Act.

This provision was intended to benefit two classes of importers. The first class is comprised of U.S. citizens who are between foreign work assignments, and need to use their noncomplying cars while in transit, on home leave, or on temporary assignment in the U.S. The second class of importer is comprised of non-U.S. citizens. They may be Mexican or Canadian residents who use the American roads on an infrequent basis, or citizens of other countries who bring their campers or cars with them to facilitate their vacations in the U.S.

One authority for the previously existing allowance was section 1397(b)(4) which authorized the adoption of regulations allowing the "temporary importation" of noncomplying vehicles or equipment items. This authority has been deleted by the 1988 Act. However, a further authority for the nonresident exemption was the existence of two international treaties to which the United States is a signatory that address the movement of vehicles among various countries (I. Customs Convention on the Temporary Importation of Private Road Vehicles opened for signature June 4, 1954, 8 U.S.T. 2097, T.I.A.S. No. 3943, entered into force December 15, 1957. II. Convention on the Regulation of

Inter-American Automotive Traffic, opened for signature December 15, 1943, 61 Stat. 1129, T.I.A.S. No. 1567, entered into force October 29, 1946). NHTSA believes that elimination of the present allowance may be inconsistent with the intent of the treaties, and proposed that it be retained in clarified form, allowing the temporary importation of any vehicle by a non-resident that is registered in a country other than the United States, provided it is for personal use, imported for a period not to exceed one year, will not be resold in the U.S. during that time, and will be exported at the end of that time (Paragraph 591.5(d)).

No commenter disagreed with the concept of temporary importation, though concern was expressed as to the effect of the requirement. Texas commented that the proposal was unclear whether nonconforming vehicles of Mexican or Canadian registry will continue to be treated as before. This was also the concern of Western Hydro-Air Drilling of Canada, a mineral drilling specialist operating in both the U.S. and Canada using the same units in both countries from time to time. The Dealer Action Association was concerned with the possible sale of nonconforming vehicles by nonresidents, as well as NHTSA's lack of substantive proposals to guard against abuse. It sought to encourage NHTSA to work with Customs to ensure that neither Canada nor Mexico become a "grey market export platform." George Ziolo commented that the phrase "for personal use" should not be adopted as "this includes commercial carriers and may confuse Customs".

The agency believes it must interpret Congressional intent in light of the realities of cross-border traffic, and the existence of treaties and agreements to which the U.S. is a party. Under long-standing NHTSA interpretations, cross-border traffic involved in daily operation in the United States over an extended period of time (as opposed to the casual tourist) is deemed subject to the *Vehicle Safety Act* and to the Federal motor vehicle safety standards. However, it must defer to the U.S. Customs Service to identify such vehicles, to refuse entry as a nonresident, and then to require entry as a nonconforming vehicle which must be conformed or exported. Because of the substantial nature of cross-border traffic, it is obvious that Customs cannot require a written declaration of every vehicle of Mexican or Canadian registry, and NHTSA's legal interpretation has not been capable of rigorous enforcement. These practical considerations are not changed by the 1988 Act, nor does NHTSA read the 1988 Act as a mandate from Congress to enhance motor vehicle safety by increasing restrictions on the use of Canadian or Mexican vehicles operated in the U.S. To respond to the comment of The Dealer Action Association, the *modus vivendi* with respect to these vehicles has not, as of the present time, resulted in the border countries becoming a grey market export plat-

form to any discernible extent. Given the present low volume of grey market cars expected, less than 3000 per year, it does not appear likely that this is a realistic concern for the near future. As for Mr. Ziolo's comment, NHTSA seeks to retain as much of the presently existing regulatory language as is consistent with the 1988 Act, and thus has not stricken "for personal use" from the final rule. The agency is not aware of any confusion that use of this term has caused in the existing regulation.

5. The vehicle does not conform to Federal safety standards.

This is the category of motor vehicle whose importation is most affected by the 1988 amendments. Under 19 CFR 12.80, a nonconforming vehicle is imported pursuant to a declaration that it will be brought into conformance within 120 days of entry. The importer gives a bond for the production of a statement, after conformance, certifying that the conformance work has been accomplished. The statement describes the conformance work, identifies the conformer, and certifies that the vehicle will not be sold until NHTSA has issued an approval letter to the district director of Customs that the bond may be released. The bond is for the dutiable value of the vehicle (12.80(b)(1)(iii) and (e)).

The 1988 amendments impose criteria which motor vehicles must meet in order to be imported. Under new section 108(c)(3)(A), a vehicle cannot be imported at all (with certain exceptions set out below) unless NHTSA determines that it is capable of modification to meet the Federal safety standards. Determinations may be made on NHTSA's own initiative, or upon petition of any registered importer (see discussion below) or any motor vehicle manufacturer, and will be subject to public comment.

A nonconforming vehicle that is not offered for importation under one of the exceptions discussed herein may be imported under either of the following two scenarios. The first scenario, specified by section 108(c)(3)(A)(i)(I), will involve the making of two determinations: (1) that the nonconforming vehicle is substantially similar to a motor vehicle of the same model year originally manufactured for importation into and sold in the U.S., (and thus in compliance with the safety standards) and (2) that the vehicle is capable of being readily modified to conform.

The second scenario, specified by section 108(c)(3)(A)(i)(II), will arise if the agency does not make a determination of substantial similarity regarding a vehicle. In that case, it will still be permissible to import the vehicle if the agency determines that the vehicle's safety features comply with the U.S. standards, or are capable of being modified to comply with those standards, "based on destructive crash data or such other evidence" as NHTSA determines is adequate.

Under either scenario, a positive determination regarding a vehicle will permit *any* registered importer to modify vehicles of the same model covered by the determination.

If the agency makes a negative determination regarding a model's ability to be modified, the agency will be temporarily prohibited from taking up the issue of that model's importability again. If the negative determination was made in response to a petition, section 108(c)(3)(C)(ii) of the Act prohibits the agency from considering a petition regarding the same model of vehicle until at least 3 months after that decision. If the negative determination was made in a proceeding begun at the agency's own initiative, the agency will not be able to make another determination regarding the same model of motor vehicle until at least 3 months after the negative one (section 108(c)(3)(C)(iii)). The agency addresses these matters in companion final rules published simultaneously with this one, Part 592, *Registered Importers of Vehicles Not Originally Manufactured to Conform to Federal Motor Vehicle Safety Standards*, and Part 593, *Determinations That a Vehicle Not Originally Manufactured to Conform to Federal Motor Vehicle Safety Standards is Eligible for Importation*.

Once a vehicle has been determined eligible for importation, it may then be imported by a registered importer who will undertake to conform it with the safety standards (Paragraph 591.5(f)(i)). The importer is required by section 108(c)(2) to give a bond to ensure conformance or alternatively to ensure that the vehicle will be exported or abandoned to the United States. The bond is to be not less than the "dutiable value" of the vehicle as determined by the Secretary of the Treasury, and not more than 150 per cent of the "dutiable value." The U.S. Customs Service has recommended that the term "entered value" be used, as under recent changes to its regulations vehicles imported from certain areas may not have duties imposed. It views "entered value" as the equivalent of the statutory term "dutiable value" for purposes of importations of vehicles under Part 591. Both NHTSA and Customs view this bond as one that is separate from the general importation bond, which will continue to be required. Further, the statute is interpreted as requiring a separate bond for each vehicle imported. This means that the 1988 Act requires an individual bond to be given for each vehicle imported. A bond is not blanket in nature, covering any vehicle that may be imported by a registered importer. In other words, the required bond will be of a single entry nature, and not of a continuous nature. The bond is acquired by the vehicle owner. Thus, a Registered Importer may not import a vehicle in which it has no ownership interest.

The new requirements were set forth in proposed 591.5(f). NADA expressed its general support. General Motors commented that Part 591 as proposed did not

state the conditions of the bond, nor that the vehicle was being imported under bond for conformance purposes. It recommended eliminating the ambiguity by including a statement of purpose in the declaration required in paragraph 591.5(f), specifically that “the vehicle is being imported under bond to ensure conformance, delivery to the Secretary of the Treasury for export at no cost to the United States, or abandonment to the United States.” NHTSA agrees with this comment, and an appropriate addition has been made to the declaration required by paragraph 591.5(f).

Because the bond is given to secure performance to the requirements of the Vehicle Safety Act, rather than to fulfill obligations under Customs’ regulations, it will be a bond of the Department of Transportation. No mitigation of the bond is contemplated for vehicles that appear to conform only partially, unlike the practice today. If full conformance is not achieved, the vehicle must be exported, or abandoned to the U.S. If none of these occur, the bond is forfeited. NHTSA has decided that the bond shall be 150 percent of the entered value of the vehicle, as determined by Customs. The bond must have been obtained prior to, or at the time of, entry of the vehicle, and attached to the declaration form. If the bond is not attached, or in an improper amount, the vehicle will be refused entry.

6. The vehicle requires further manufacturing operations.

Under new section 108(e), the prohibitions in subsections (a)(1)(A) and (a)(1)(C) shall not apply to any motor vehicle if it requires further manufacturing operations to perform its intended function (as determined under regulations prescribed by the Secretary), and is accompanied at the time of entry by its manufacturer’s written statement which indicates the applicable Federal motor vehicle safety standard with which the vehicle does not comply. The corresponding current provision is 12.80(b)(1)(ix): a vehicle may be imported if it is an “incomplete vehicle” as defined by 49CFR Part 568 *Vehicles Built in Two or More Stages*. Under Part 568, an incomplete vehicle manufacturer must provide with an incomplete vehicle a document that contains the information specified in paragraph 568.4. With respect to the safety standards, the document must list the specific vehicle types into which the incomplete vehicle may be appropriately manufactured, and, with respect to each standard that applies to each such type, make one of three statements. These statements are (1) that the vehicle when completed will conform to the standard if no alterations are made to the specified components of the vehicle (2) the specific conditions of final manufacture under which the manufacturer specifies that the completed vehicle will conform to the standard, or (3) that conformity with the standard is not substantially affected by the design of the incomplete vehicle, and that the incomplete vehicle manufacturer makes no representation of conformity

with the standard. The justification for this exception in 12.80 has been that the vehicle must conform, and be certified as conforming, upon completion by its final stage manufacturer, and that this is an obligation that exists independent of the importation process which serves to ensure that safety needs are met.

As NHTSA noted in its proposal, the question of the type and extent of manufacturing required for performance of intended function, will, of course, vary. However, the existing requirements for alterers of certified vehicles (paragraph 568.8) afforded a basis for proposing criteria that distinguish between completed vehicles and those that require further manufacturing. Accordingly, NHTSA proposed paragraph 591.5(e), the declaration that “The vehicle or equipment item requires further manufacturing operations to perform its intended function, other than the addition of readily attachable equipment items, or minor finishing operations.” By so doing, NHTSA also intended to establish a clear dividing line between entry under the technical nonconformance conditions of paragraph 591.5(b), applicable to completed vehicles, and the greater manufacturing operations required for entry under paragraph 591.5(e).

Virginia Department of Motor Vehicles asked what are vehicles requiring further manufacturing operations. In commenting on the proposal, The Dealer Action Association found the declaration insufficiently comprehensive to limit its application, and recommended that NHTSA limit this exception to original equipment manufacturers, to enable them to manufacture vehicles in stages, initially outside the United States, and completion within. NADA commented that the further manufacturing specification should be clearly stated as applying to Part 568-type vehicles which must ultimately comply with Federal safety standards. Freightliner stated that it imports “kits” that are “incomplete vehicles” as defined under Part 568, and asked whether it would have to be registered as an importer.

NHTSA has carefully considered these comments. The question raised by Virginia is, of course, fundamental to this provision. The proposal indicated that at a minimum the term included vehicles fitting the definition of “incomplete vehicle” in Part 568. This conclusion is reinforced by reading *in pari passu* the definitions of both “completed vehicle” and “incomplete vehicle” established by Part 568, definitions that are mutually exclusive. If a vehicle is not incomplete, it is complete. Therefore a vehicle requiring further manufacturing operations to perform its intended function is an “incomplete vehicle” as defined by Part 568.

The issue raised by The Dealer Action Association is whether importation under this provision can be limited to original equipment manufacturers. No such limitation appears upon the face of the statute. The thrust of the requirement is towards the vehicle itself:

it is one requiring further manufacturing, and it is accompanied by an appropriate document. While the vehicle must ultimately conform, the statute does not impose the obligation of conformance upon the importer. NHTSA is loath to read a restriction of this nature into the 1988 Act that does not appear on its face. Even were it sympathetic to the comment, it believes that such a restriction would have to be formally proposed for comment. However, NHTSA will monitor importations under this section and if remedial action appears required for motor vehicle safety, will propose an appropriate restrictive amendment.

With respect to NADA's comment, NHTSA has decided to clarify that the document accompanying the declaration be a statement in the form specified in Part 568. This document in its essential respects complies with the language of section 108(e). If the vehicle is not in compliance with an applicable standard, that fact will be reflected in the statement made with respect to such standard pursuant to paragraph 568.4. As for a description of the further manufacturing operations required for the vehicle to perform its intended function, NHTSA believes that this must be read within the safety context of the 1988 Act. An incomplete vehicle manufacturer will not in many instances know the manner in which a specific vehicle will be completed, as for example, whether a chassis-cab will be finished with a school bus body, or with a dumping apparatus. But he must make statements relevant to the further manufacturing operations connected with completion of the vehicle in accordance with the Federal safety standards. NHTSA therefore has decided that this document will satisfy the intent of section 108(e). The only new requirement imposed is that the document must accompany the declaration.

Finally, with respect to Freightliner's question whether an importer of a vehicle requiring further manufacturing operations must be registered, the answer is no. There are no safety standards that apply to an incomplete vehicle, and the obligation of conformance arises after importation, upon completion of manufacture. However, if the incomplete vehicle is a chassis-cab and is not certified as required, its importer must be a registered importer who undertakes to bring it into conformance with applicable standards. Where manufacture has been completed before importation and the vehicle was not originally manufactured to conform to the standards, the importer of that type of vehicle is required to be registered.

Finally, NHTSA wants to make plain that it will countenance no importations under paragraph 591.5(e) that appear to be subterfuges to avoid compliance responsibility. Instances have arisen in the past in which an importer offered for importation a motor vehicle without its engine, or other running gear parts, claiming that the merchandise was, in fact, equipment

to which no standard applied, and the importer separately imported the engine or parts. The agency has treated these cases as *de facto* importations of noncomplying motor vehicles, and required them to be entered as nonconforming motor vehicles and evidence of conformity to be subsequently submitted. The agency intends to follow this policy, and will not consider such an assemblage to be a vehicle requiring further manufacturing operations.

7. The importer has a contract with a registered importer.

The primary eligibility requirements placed by the 1988 Act on persons importing nonconforming vehicles are that they will have to be, subject to certain exceptions, registered as importers, or they will have to have contracts with registered importers to conform the vehicles. A person importing under contract with a registered importer will have to furnish, at the time of entry, an appropriate bond (which, under the 1988 amendments, is not less than 100 percent of the dutiable value of the vehicle and not more than 150 percent), a copy of the contract or other agreement with a registered importer, and certification that an affirmative decision has been made regarding the eligibility of the vehicle for importation. These matters, specified in section 108(f), are covered in paragraph 591.5(f)(ii). Under paragraph 591.6(d), the declaration must be accompanied by a copy of the contract or agreement. The purpose of the new requirements is to increase the likelihood that nonconforming vehicles will be properly modified and actually brought into compliance with the safety standards.

8. The importer is eligible to import under present requirements.

Nonresidents are affected in another way by the 1988 Act. Under certain circumstances, and for a limited time, section 108(g) of the Vehicle Safety Act permits a nonresident (including any member of the Armed Forces) to continue to import a vehicle under the present regulation, that is, to have it conformed by a person other than a registered importer. This exception applies to a single vehicle imported, for personal use and not for resale, between January 31, 1990, and October 31, 1992, by an individual whose assigned place of employment was outside the United States for the total period between October 31, 1988, and the date of importation, provided that the vehicle was acquired (or was subject to a binding contract to acquire) before October 31, 1988, and that the individual has not previously imported a nonconforming motor vehicle. This amendment is reflected in paragraph 591.5(g). There were no comments on this subject. However, the Virginia Department of Motor Vehicles asked what standard a vehicle purchased or ordered before October 31, 1988, would have to meet when it is imported. The answer is, those standards that applied to such a vehicle on the day of its manufacture, i.e.,

assembly. This requirement of the Vehicle Safety Act is unchanged by the 1988 Act.

9. Importation by diplomats and foreign military personnel.

Any person who is a member of the armed forces of a foreign country on assignment in the U.S., or any person who is a member of the Secretariat of a public international organization so designated under the International Organization Immunities Act and who is within the class of persons for whom free entry of motor vehicles has been authorized by the Secretary of State may currently import a nonconforming vehicle for the duration of their stay pursuant to the declaration that the vehicle is for personal use only (12.80(b)(1)(vi)). Section 108(h) of the Vehicle Safety Act specifically retains this exclusion, but in addition requires NHTSA to ensure that any such vehicle will be exported or abandoned when the importer ceases to reside in the U.S. It also forbids the sale while within the United States of any motor vehicle imported under this provision.

The enforcement of this provision would appear to rest with the Office of Foreign Missions of the Department of State. NHTSA understands that foreign personnel in the exempted categories who import nonconforming vehicles into the United States, are required to register their vehicles with this Office. Under the registration process, the Office takes possession of the foreign title of the vehicle, and issues registration plates to the importer after verifying that the vehicle is insured. The importer does not take repossession of the title until the registration plates are returned to the Office. At that time, the Office asks for an explanation. The usual reason is that the importer's assignment in the United States has ended, and that the importer is leaving the country. Documentary proof is required, such as a copy of the importer's orders. Heretofore, however, no documentary proof has been required that the vehicle is being, or has been, exported. Thus, it is possible that a nonconforming vehicle could be sold between the time the importer repossesses the title and actually leaves the country, but the Office believes that this is only an infrequent occurrence. NHTSA has informally approached the Office as to the possibility that it could require proof of exportation of diplomatic vehicles, and has found the Office amenable to that suggestion. This approach appears less cumbersome than requiring a bond for the exportation of diplomatic vehicles. Accordingly, NHTSA is adopting as one of the declarations a diplomatic importer must make under paragraph 595.5(h) that (s)he will provide the Office of Foreign Missions, at the conclusion of a tour of duty and before departure from the United States, with documentary proof that the vehicle is being, or has been, exported.

Under the existing law and regulations, it has been the practice to allow an exempted diplomatic importer to sell his or her nonconforming vehicle to another person in one of the exempted categories. The justification for this practice is that the exempted buyer is himself eligible to import a nonconforming vehicle. The agency does not construe the 1988 Act as forbidding this type of sale between exempted importers.

However, the 1988 Act has another effect. Heretofore, the agency had no objection if sale of a nonconforming diplomatic vehicle to a nonexempted party occurred after the vehicle had been brought into conformance with applicable Federal safety standards. NHTSA commented in the preamble to the April proposal that if this practice is to continue, it would have to be greatly modified. If an exempted importer wishes to sell a nonconforming vehicle in the United States, NHTSA indicated that the importer be prohibited from doing so unless (1) the vehicle is one which the Administrator has determined is modifiable to conform to the safety standards, and (2) the vehicle will be conformed through a registered importer. In so suggesting, NHTSA believed that this type of transaction was also within the intent of the 1988 Act, and that otherwise, a nonconforming vehicle may not be sold if imported pursuant to the diplomatic exemption. The sole commenter on this declaration, The Dealer Action Association, recommended forbidding this type of transaction, and restricting sales to those between diplomatic personnel. As an alternative, it suggested establishing procedures analogous to those under paragraph 591.5(f)(2) by which an individual would contract with a registered importer.

The agency has reviewed this comment, and has concluded that sales should be restricted to those between diplomatic personnel. After reviewing the 1988 amendments, NHTSA believes that vehicles imported pursuant to the diplomatic exemption should be exported at the end of the diplomatic-importer's tour of duty, unless the vehicle is sold to a person who would have been eligible to have imported it under such exemption. If a diplomat wishes to enter a nonconforming vehicle with the intent of selling it in the United States, he must do so outside the diplomatic exception and through either a registered importer, or pursuant to a contract with one. As both a practical and legal matter, NHTSA would find it difficult to enforce a no sale provision against diplomatic personnel, and the regulation has not been adopted so as to allow this type of sale.

10. The vehicle is 25 or more years old.

A motor vehicle is allowed immediate entry under 12.80(b)(1)(i) if it was manufactured before any applicable Federal motor vehicle safety standards were in effect. All motor vehicles, other than motorcycles,

manufactured on or after January 1, 1968, have been covered by safety standards. Accordingly, this declaration has been used only for the entry of vehicles manufactured *before* January 1, 1968. Under section 108(i), added by the 1988 Act, a motor vehicle may be allowed entry without the necessity of conformance if it is 25 years old or older. Thus, after January 1, 1993, vehicles that were manufactured on or after January 1, 1968, will be relieved of the necessity to conform as they reach 25 years of age. The existing declaration will be retained until January 1, 1993, although clarified by specifying the January 1, 1968 date (paragraph 591.5(i)). This is necessary to prevent the importers of vehicles which are less than 25 years old but manufactured before January 1, 1968, from being inadvertently required to enter their vehicles pursuant to the 1988 amendments. During 1992, the agency will amend paragraph 591.5(i) to implement the 25-year old exclusion effective January 1, 1993. There were no comments on this aspect of the regulation.

11. Importation for research, investigations, studies, etc.

Importation of nonconforming vehicles without bond is presently allowed if the importation is solely for the purpose of show, test, experiment, competition, repair, or alteration (12.80(b)(1)(vii)). If the vehicle is imported for test or experiment, it may be licensed for use on the public roads for a period not to exceed one year, extendable for two successive year periods, or a period of three years in all. Importation for this class of noncomplying motor vehicles has been permitted pursuant to the assumption that motor vehicle safety would not be affected by the temporary importation of noncomplying motor vehicles not generally used on the public roads, and whose appearance on them would be limited.

Section 108(j) of the Vehicle Safety Act modifies these categories. It provides NHTSA with authority to exempt a vehicle from importation and certification violations upon such terms and conditions as may be necessary solely for the purpose of research, investigations, studies, demonstrations or training, or competitive racing events. It does not include the terms "show" and "repair" currently in use. In the notice of proposed rulemaking, NHTSA observed that prospective importers ought not to be unduly concerned at this. In NHTSA's experience, importation for repair has averaged, perhaps, one vehicle every two years. Manufacturers who have imported nonconforming products for display at auto shows to gauge public reaction to new styling or engineering features will not be precluded from declaring that such importation is for "research" or "demonstrations". And museums will be able to bring in nonconforming vehicles under the 25-year exception. NHTSA proposed to allow importation for the statutory purposes specified, provided that the declaration is accompanied by certain

information and statements. If this information indicates that on-road use for a period that is greater than 1 year is required for these purposes, the importer will not be required to petition NHTSA for yearly extensions, as is presently the case. At the end of 3 years, the importer is subject to termination of the Customs Temporary Importation Bond under which the vehicle entered. At that point, the vehicle must be destroyed, exported, or abandoned to the United States. Alternatively, if duty is paid at the time of importation of the nonconforming vehicle, the vehicle must not remain in the United States for a period longer than 5 years after entry. The proposal also prohibited an importer of a vehicle imported for competitive racing events from licensing it for use on the public roads.

NHTSA also stated in the proposal that it envisioned that a registered importer who intends to file a petition under Part 593 for a determination that a vehicle is eligible for importation because it is capable of modification could avail itself of the demonstration exception to import such vehicles as may be necessary in order to develop the documentation needed to demonstrate the vehicle's capability for modification.

Comments to this proposal varied in nature and content. A number of commenters pointed out a contradiction between the blanket prohibition against licensing for on-road use contained in proposed paragraph 591.5(j), and the associated provision in paragraph 591.6(f) requiring submission of certain information if the vehicle is to be licensed for on-road use during its stay in the United States. BMW suggested that NHTSA conform its provisions to accord with similar ones of EPA contained in 19 CFR 12.73(h) and 40 CFR 85.1511(b)(2). General Motors, Volkswagen, and Ford recommended specifying the exceptions, such as allowing on-road use when such use is an integral part of the purpose for which it was imported. Austin Rover asked NHTSA to clarify that the licensing for use prohibition applies only to vehicles imported for competitive racing events, and Volkswagen wanted the prohibition struck for this type of vehicle. Barry Wood noted in a phone call that the proposal did not cover vehicles imported from Canada for repair and returned to that country. He observed that this was a not infrequent practice in his part of the United States. Finally, General Motors asked that this exception not terminate after 5 years, but be available for an unlimited period of time, citing the allowance by EPA of unlimited use of vehicles not conforming to Federal emission requirements.

The agency agrees that the proposal appears to present a conflict between paragraphs 591.5(j) and 591.6(f). The comments have caused NHTSA to review closely the new statutory language, and the agency has concluded that it provides sufficient flexibility to respond favorably to many of the comments. The specific language of new section 108(j) is "The Secretary

may exempt any motor vehicle or item of motor vehicle equipment from subsections (a)(1) and (c)(1) upon such terms and conditions as the Secretary may find necessary solely for the purpose of research, investigations, studies, demonstrations or training, or competitive racing events". Subsection (a)(1) contains the statutory prohibition against importation of non-complying vehicles, and their introduction into interstate commerce. Subsection (c)(1) contains the requirement of vehicle certification. In other of the 1988 Act amendments, Congress has flatly stated that subsections (a)(1) and (c)(1) shall not apply provided specified steps are taken. Subsection (j), on the other hand, implies that subsections (a)(1) and (c)(1) do apply, but that NHTSA has the flexibility to determine when they do not. For example, if NHTSA has allowed importation and on-road use for a period of 4 years, and the vehicle is not exported at the end of that time, NHTSA may impose a civil penalty. As a further example, if NHTSA has determined that indefinite on-road use is required to achieve the importer's stated purpose, NHTSA could inform the importer that it would not find that the Vehicle Safety Act had been violated. If licensing for on-road use is an absolute requirement of a competitive event, NHTSA could allow it for a limited period of time, and under circumstances prescribed in its letter of permission. Thus, the final rule has been modified to reflect the agency's conclusions. Under 591.6(f), any person seeking to import a motor vehicle under 591.5(j) must write NHTSA in advance of such importation with a full and complete statement of the purposes of the importation, and whether on-road use is contemplated. NHTSA's reply, if affirmative, will impose such terms and conditions as may seem required for motor vehicle safety. Violations of any of these terms and conditions will be considered a violation of section 108(a)(1)(A) of the Vehicle Safety Act, for which a civil penalty may be imposed. A copy of NHTSA's letter of permission must be provided Customs upon entry of the vehicle, attached to the declaration form. Under 591.7(f) in its final form, vehicles imported pursuant to paragraph 591.5(j) for which duties have been paid, must be exported not later than 5 years after entry, unless permission has been obtained from NHTSA.

There remains the question raised by Barry Wood, whether a nonconforming vehicle may be imported for "repair" in the absence of any express statutory authority allowing it, or any discussion of it in the legislative history of the 1988 Act. Although the joint regulations have permitted this practice for over 20 years, it was omitted from the categories of vehicles importable pursuant to paragraph 591.5(j). There are really two issues here, rather than one. The situation mentioned by Mr. Wood involves vehicles that are returned to Canada after repair. That is to say, they do not appear to be vehicles temporarily imported by U.S.

residents, but vehicles that are temporarily exported by their Canadian owners. As such, they appear to be vehicles involved in international traffic, imported for a limited period of time by nonresidents of the United States. In NHTSA's view, Canadian-owned vehicles that are repaired in the United States and returned to Canada at the completion of repairs are properly entered pursuant to paragraph 591.5(d). The other issue is importation by U.S. residents of nonconforming vehicles for repair. The agency has no knowledge of any importation by U.S. residents of nonconforming vehicles for repair, followed by their subsequent exportation. At most, it appears highly infrequent, so that the failure of Congress to include it in the 1988 Act ought not to work a hardship.

Importance of Motor Vehicle Equipment

Under 19 CFR 12.80, the first seven of the nine declarations applicable to motor vehicles also apply to motor vehicle equipment. The primary focus of the 1988 Act is upon motor vehicles, however, and some of the new exceptions do not apply to motor vehicle equipment. An analysis of the equipment provision and final rules follows.

First, the agency has no jurisdiction over an item that does not fit the definition of motor vehicle equipment, as contained in 15 U.S.C. 1391(4). Thus, such an item may be entered pursuant to the declaration that it is not a system, part, or component of a motor vehicle (paragraph 591.5(a)(2)).

The 25-year old exception for motor vehicles does not extend to motor vehicle equipment. This means that equipment covered by an equipment standard continues to be importable without the necessity for conformance (absent other exceptions) only if manufactured on a date before a standard applied to it (paragraph 591.5(i)(2)).

An equipment item that is certified as conforming to applicable equipment standards continues to be admissible upon a simple declaration that it conforms (paragraph 591.5(b)).

Because the importation for export exception is provided for by the Vehicle Safety Act, and not affected substantively by the 1988 Act, nonconforming equipment may continue to be imported for export, provided that it or its container bears a label or tag to that effect at the time of importation. (See section 108(b)(5) of the Vehicle Safety Act, redesignated as 108(b)(3) by the 1988 Act and paragraph 591.5(c)).

Under new section 108(e), an equipment need not comply upon importation if it requires further manufacturing operations to perform its intended function. In the final rule, the agency has decided to adopt terminology from Part 568 to implement this requirement for motor vehicles. Manifestly, Part 568 does not apply to "incomplete" equipment, and the agency is adopting the exact language of the 1988 Act as the

requirement for entry of motor vehicle equipment subject to section 108(e).

The new provisions regarding importation for purposes of research, investigation, studies, demonstrations or training, or competitive racing events (section 108(j)) expressly include motor vehicle equipment as well as vehicles, and thus supersede existing requirements which make no provision for them. This change is reflected in paragraph 591.5(j).

Because the 1988 Act is specific about the conditions under which nonconforming equipment items may be admissible, there appear to be certain areas in which a right to import a nonconforming equipment item no longer exists. Although 12.80(b)(1)(iii) allows importation of a nonconforming equipment item under bond for conformance within 120 days of entry, no similar provisions appear in the 1988 Act; the bond, registered importer, and eligibility determination provisions apply only to importation of motor vehicles. Therefore, as of January 31, 1990, nonconforming equipment may no longer be imported pursuant to a declaration that it will be brought into conformance. Although NHTSA has incorporated nonresident importation procedures for motor vehicles without specific authority in the 1988 Act, it does not believe that is required to extend those procedures to cover nonconforming equipment items (other than those attached and in use on a vehicle), as is presently provided for under 12.80(b)(1)(v). Similarly, the diplomatic/foreign military exception will no longer cover nonconforming equipment items, as it presently does in 12.80(b)(vi). Although the agency did not call specific attention to these omissions in the preamble to the proposal, the omissions are readily apparent in the text of the proposed regulation.

Provision of New Declaration forms

NADA asked that the agency either revise or publish a new HS-7 importation form as part of the final rule, or indicate how that form will be revised as part of a new Customs Service regulation.

Development of a new form in its definitive state must await receipt and action upon petitions for reconsideration, if any, regarding this final rule. However, NHTSA believes that it would be in the public interest to publish the new form in the *Federal Register* at the earliest practicable time, and will endeavor to do so in a further notice under Docket 89-5.

Impacts

NHTSA has considered the impacts of this rule-making action and has determined that it is not major within the meaning of Executive Order 12291 "Federal Regulation." It implements P.L. 100-562 under which primary authority to establish regulations governing the importation of motor vehicles and equipment into

the United States is shifted to NHTSA, rather than being jointly shared with the U.S. Customs Service. As such, it establishes the rights and duties of those who may import nonconforming motor vehicles, and the types of nonconforming motor vehicles that may be imported. It is not significant under Department of Transportation regulatory policies and procedures. Less than 3000 motor vehicles a year are currently imported, and it is anticipated that this number will not increase. There is no substantial impact upon a major transportation safety program, and the action does not involve any substantial public interest or controversy. There is no substantial effect on state and local governments. The impact upon the Federal government is that certain present obligations of the U.S. Customs Service are transferred to the Department of Transportation. As discussed previously, many of the new requirements are specified by the 1988 Act, and thus do not reflect any exercise of agency discretion. These include not only importation through or by contract with a registered importer, but also importation of vehicles and equipment requiring further manufacturing to perform their intended function, importation of vehicles by specified foreign diplomatic and military personnel, importation of vehicles more than 25 years old, and importation of vehicles for the purpose of research, investigations, studies, demonstrations or training, or competitive racing events, and importation under a separate performance bond. Nevertheless, a regulatory evaluation analyzing the economic impacts of this and the related final rules required by P.L. 100-562 has been prepared, and is available for review in the docket, as part of the Regulatory Flexibility Analysis.

In consideration of the foregoing, a new Part 591, *Importation of Vehicles and Equipment Subject to Federal Motor Vehicle Safety Standards*, is added to Title 49, Chapter V, to read as follows:

PART 591, *Importation of Vehicles and Equipment Subject to Federal Motor Vehicle Safety Standards*
Sec.

591.1 Scope.

591.2 Purpose.

591.3 Applicability.

591.4 Definitions.

591.5 Declarations required for importation.

591.6 Documents accompanying declarations.

591.7 Restrictions on importations.

Authority: P.L. 100-562, 15 U.S.C. 1401, 1407; delegations of authority at 49 CFR 1.50 and 501.8.

591.1 Scope.

This part establishes procedures governing the importation of motor vehicles and motor vehicle equipment subject to the Federal motor vehicle safety standards.

591.2 Purpose.

The purpose of this part is to ensure that motor vehicles and motor vehicle equipment permanently imported into the United States conform with, or are brought into conformity with, all applicable Federal motor vehicle safety standards issued under Part 571 of this chapter, and to ensure that vehicles and equipment items imported on a temporary basis are ultimately either exported or abandoned to the United States.

591.3 Applicability

This part applies to any person offering a motor vehicle or item of motor vehicle equipment for importation into the United States. Regulations prescribing further procedures for importation of motor vehicles and items of motor vehicle equipment into the Customs territory of the United States, as defined in 19 U.S.C. 1202, are set forth in 19 CFR 12.80.

591.4 Definitions.

All terms used in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1391) are used as defined in the Act.

“Administrator” means the Administrator of NHTSA.

“NHTSA” means the National Highway Traffic Safety Administration of the Department of Transportation.

“Original manufacturer” means the entity responsible for the original manufacture or assembly of a motor vehicle, and does not include any person (other than such entity) who converts the motor vehicle after its manufacture to conformance with the Federal motor vehicle safety standards.

591.5 Declarations required for importation.

No person shall import a motor vehicle or item of motor vehicle equipment into the United States unless, at the time it is offered for importation, its importer files a declaration, in duplicate, which declares one of the following:

(a)(1) The vehicle was not manufactured primarily for use on the public roads and thus is not a motor vehicle subject to the Federal motor vehicle safety standards; or

(2) The equipment item is not a system, part, or component of a motor vehicle and thus is not an item of motor vehicle equipment subject to the Federal motor vehicle safety standards.

(b) The vehicle or equipment item conforms with all applicable safety standards (or the vehicles does not conform solely because readily attachable equipment items which will be attached to it before it is offered for sale to the first purchaser for purposes other than resale are not attached), and bears a certification label or tag to that effect permanently affixed by the original manufacturer to the vehicle, or to the equipment item or its delivery container, in accordance with, as

applicable, 49 CFR Parts 555, 567, 568, or 571 (for certain equipment items).

(c) The vehicle or equipment item does not comply with all applicable Federal motor vehicle safety standards, but is intended solely for export, and the vehicle or equipment item, and the outside of the container of the equipment items, if any, bears a label or tag to that effect.

(d) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) (S)he is a nonresident of the United States and the vehicle is registered in a country other than the United States,

(2) (S)he is temporarily importing the vehicle for personal use for a period not to exceed one year, and will not sell it during that time,

(3) (S)he will export it not later than the end of one year after entry, and

(4) The declaration contains the importer’s passport number and country of issue.

(e) The vehicle or equipment item requires further manufacturing operations to perform its intended function, other than the addition of readily attachable equipment items such as mirrors, wipers, or tire and rim assemblies, or minor finishing operations such as painting, and upon completion of such further manufacturing operations will comply with all applicable Federal motor vehicle safety standards.

(f) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) The importer has furnished a bond, which is attached to the declaration, in amount equal to 150 per cent of the entered value of the vehicle as determined by the Secretary of the Treasury, to ensure that the vehicle will be brought into compliance with all applicable Federal motor vehicle safety standards, or, in the absence of such compliance, that it will be delivered to the Secretary of the Treasury for export, or abandoned to the United States, and that if the Administrator determines that the vehicle has not been brought into compliance with all such standards, the importer states that (s)he will deliver to the Secretary of the Treasury for export, or abandon to the United States, such vehicle within the time limit imposed by the Administrator; and

(2)(A) The importer has registered with NHTSA pursuant to Part 592 of this chapter, and such registration has not been revoked or suspended, and the Administrator has determined pursuant to Part 593 of this chapter that the model and model year of the vehicle to be imported is eligible for importation into the United States; or

(B) The importer has executed a contract or other agreement with an importer who has registered with NHTSA pursuant to Part 592 of this chapter and

whose registration has not been suspended or revoked; and the Administrator has determined pursuant to Part 593 of this chapter that the model and model year of the vehicle to be imported is eligible for importation into the United States;

(g) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) The importer's assigned place of employment has been outside the United States at all times between October 31, 1988, and the date the vehicle is entered into the United States;

(2) The importer has not previously imported a motor vehicle into the United States that was subject to the Federal motor vehicle safety standards;

(3) The importer has acquired (or entered into a binding contract to acquire) the vehicle before October 31, 1988; and

(4) The vehicle will be entered into the United States not later than October 31, 1992.

(h) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) (S)he is a member of:

(A) The armed forces of a foreign country on assignment in the United States; or

(B) The Secretariat of a public international organization so designated under the International Organizations Immunities Act (22 U.S.C. 288), as listed in 19 CFR 148.47, on assignment in the United States; or

(C) The personnel of a foreign government for whom free entry of vehicles has been authorized by the Department of State; and

(D) The motor vehicle is being imported on a temporary basis, and for the personal use of the importer.

(2) (S)he will not sell the vehicle to any person in the United States, other than a person eligible to import a vehicle under this subsection; and

(3) (S)he will provide the Office of Foreign Missions of the State Department, before departing the United States at the conclusion of a tour of duty, with documentary proof that the vehicle is being, or has been, exported.

(i)(1) The vehicle was manufactured before January 1, 1968, or, if a motorcycle, before January 1, 1969; or

(2) The equipment item was manufactured on a date when no applicable safety standards were in effect.

(j) The vehicle or equipment item does not conform with all applicable Federal motor vehicle safety standards, but is being imported solely for the purpose of:

(1) research;

(2) investigations;

(3) studies;

(4) demonstrations or training; or

(5) competitive racing events;

and the importer has received written permission from NHTSA.

591.6. Documents accompanying declarations.

Declarations of eligibility for importation made pursuant to paragraph 591.5 must be accompanied by the following certification and documents, where applicable.

(a) A declaration made pursuant to paragraph 591.5(a) shall be accompanied by a statement substantiating that the vehicle was not manufactured for use of the public roads, or that the equipment item was not manufactured for use on a motor vehicle or is not an item of motor vehicle equipment.

(b) A declaration made pursuant to paragraph 591.5(e) shall be accompanied by:

(1) (for a motor vehicle) a document meeting the requirements of Paragraph 568.4 of Part 568 of this chapter.

(2) (for an item of motor vehicle equipment) a written statement issued by the manufacturer of the equipment item which states the applicable Federal motor vehicle safety standard(s) with which the equipment item is not in compliance, and which describes the further manufacturing required for the equipment item to perform its intended function.

(c) A declaration made pursuant to paragraph 591.5(f) shall be accompanied by a bond in an amount equal to 150 per cent of the entered value of the vehicle as determined by the Secretary of the Treasury for the conformance of the vehicle with all applicable Federal motor vehicle safety standards, or, if conformance is to be achieved, for the delivery of such vehicle to the Secretary of the Treasury for export at no cost to the United States, or for its abandonment.

(d) A declaration made pursuant to paragraph 591.5(f) by an importer who is not a Registered Importer shall be accompanied by a copy of the contract or other agreement that the importer has with a Registered Importer to bring the vehicle into conformance with all applicable Federal motor vehicle safety standards.

(e) A declaration made pursuant to paragraph 591.5(g) shall be accompanied by certification, including appropriate documentary proof that the vehicle for which declaration is made had been acquired by the importer as of October 31, 1988, or, if not so acquired, by a copy of a contract to acquire the vehicle, dated before October 31, 1988, which was binding upon the importer.

(f) A declaration made pursuant to paragraph 591.5(h) shall be accompanied by a copy of the importer's official orders, or, if a qualifying member of the personnel of a foreign government on assignment in the United States, the name of the embassy to which the importer is accredited. A declaration made pursuant to paragraph 591.5(j) shall be accompanied by a letter from the Administrator authorizing importation pursuant to that paragraph. Any person seeking to import a motor vehicle or item of motor vehicle equipment pursuant to paragraph 591.5(j) shall submit in advance of such importation, a written request to the Admin-

istrator containing a full and complete statement identifying the specific purpose(s) of importation, which describes the use to be made of the vehicle or equipment item. If use on the public roads is an integral part of the purpose for which the vehicle or equipment item is imported, the statement shall request permission to license the vehicle for use (or use the equipment item) on the public roads, describing the purpose for which such use is necessary, and stating the estimated period of time necessary to use the vehicle or equipment item on the public roads. The statement shall also state the intended disposition to be made of the vehicle or equipment item after completion of the purpose for which it is imported. Any violation of a term or condition imposed by the Administrator shall be considered a violation of 15 U.S.C. 1397(a)(1)(A) for which a civil penalty may be imposed.

591.7 Restrictions on importations.

(a) A vehicle or equipment item which has entered the United States under a declaration made pursuant to paragraph 591.5(j), and for which a temporary Importation Bond has been provided to the Secretary

of the Treasury, shall not remain in the United States for a period that exceeds 3 years from its date of entry.

(b) A vehicle or equipment item which has entered the United States under a declaration made pursuant to paragraph 591.5(j), and for which duty has been paid, shall not remain in the United States for a period that exceeds 5 years from its date of entry, unless written permission has been obtained from the Administrator, NHTSA.

(c) An importer of a vehicle which has entered the United States under a declaration made pursuant to paragraph 591.5(j) may license it for use on the public road only if written permission has been granted by the Administrator, NHTSA, pursuant to paragraph 591.5(f).

Issued on: September 26, 1989

Jeffrey R. Miller
Acting Administrator

54 F.R. 40069
September 29, 1989

PART 591—IMPORTATION OF VEHICLES AND EQUIPMENT SUBJECT TO FEDERAL MOTOR VEHICLE SAFETY STANDARDS

591.1 Scope.

This part establishes procedures governing the importation of motor vehicles and motor vehicle equipment subject to the Federal motor vehicle safety standards.

591.2 Purpose.

The purpose of this part is to ensure that motor vehicles and motor vehicle equipment permanently imported into the United States conform with, or are brought into conformity with, all applicable Federal motor vehicle safety standards issued under Part 571 of this chapter, and to ensure that vehicles and equipment items imported on a temporary basis are ultimately either exported or abandoned to the United States.

591.3 Applicability.

This part applies to any person offering a motor vehicle or item of motor vehicle equipment for importation into the United States. Regulations prescribing further procedures for importation of motor vehicles and items of motor vehicle equipment into the Customs territory of the United States, as defined in 19 U.S.C. 1202, are set forth in 19 CFR 12.80.

591.4 Definitions.

All terms used in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U S C 1391) are used as defined in the Act

“Administrator” means the Administrator of NHTSA.

“NHTSA” means the National Highway Traffic Safety Administration of the Department of Transportation.

“Original manufacturer” means the entity responsible for the original manufacture or assembly of a motor vehicle, and does not include any person

(other than such entity) who converts the motor vehicle after its manufacture to conformance with the Federal motor vehicle safety standards.

591.5 Declarations required for importation.

No person shall import a motor vehicle or item of motor vehicle equipment into the United States unless, at the time it is offered for importation, its importer files a declaration, in duplicate, which declares one of the following:

(a)(1) The vehicle was not manufactured primarily for use on the public roads and thus is not a motor vehicle subject to the Federal motor vehicle safety standards; or

(2) The equipment item is not a system, part, or component of a motor vehicle and thus is not an item of motor vehicle equipment subject to the Federal motor vehicle safety standards.

(b) The vehicle or equipment item conforms with all applicable safety standards (or the vehicle does not conform solely because readily attachable equipment items which will be attached to it before it is offered for sale to the first purchaser for purposes other than resale are not attached), and bears a certification label or tag to that effect permanently affixed by the original manufacturer to the vehicle or to the equipment item or its delivery container, in accordance with, as applicable 49 CFR Parts 555 567, 568, or 571 (for certain equipment items).

(c) The vehicle or equipment item does not comply with all applicable Federal motor vehicle safety standards, but is intended solely for export and the vehicle or equipment item, and the outside of the container of the equipment item, if any, bears a label or tag to that effect.

(d) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) (S)he is a nonresident of the United States and the vehicle is registered in a country other than the United States,

(2) (S)he is temporarily importing the vehicle for personal use for a period not to exceed one year, and will not sell it during that time,

(3) (S)he will export it not later than the end of one year after entry, and

(4) The declaration contains the importer's passport number and country of issue.

(e) The vehicle or equipment item requires further manufacturing operations to perform its intended function, other than the addition of readily attachable equipment items such as mirrors, wipers, or tire and rim assemblies, or minor finishing operations such as painting, and upon completion of such further manufacturing operations will comply with all applicable Federal motor vehicle safety standards.

(f) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) The importer has furnished a bond, which is attached to the declaration, in amount equal to 150% of the entered value of the vehicle as determined by the Secretary of the Treasury, to ensure that the vehicle will be brought into compliance with all applicable Federal motor vehicle safety standards, or, in the absence of such compliance, that it will be delivered to the Secretary of the Treasury for export, or abandoned to the United States, and that if the Administrator determines that the vehicle has not been brought into compliance with all such standards, the importer states that (s)he will deliver to the Secretary of the Treasury for export or abandon to the United States, such vehicle within the time limit imposed by the Administrator, and

(2)(A) The importer has registered with NHTSA pursuant to Part 592 of this chapter and such registration has not been revoked or suspended, and the Administrator has determined pursuant to Part 593 of this chapter that the model and model year of the vehicle to be imported is eligible for importation into the United States, or

(B) The importer has executed a contract or other agreement with an importer who has registered with NHTSA pursuant to Part 592 of this chapter and whose registration has not been suspended or revoked, and the Administrator has determined pursuant to Part 593 of this chapter that the model and model year of the vehicle to be imported is eligible for importation into the United States;

(g) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) The importer's assigned place of employment has been outside the United States at all times between October 31, 1988, and the date the vehicle is entered into the United States;

(2) The importer has not previously imported a motor vehicle into the United States that was subject to the Federal motor vehicle safety standards;

(3) The importer had acquired (or entered into a binding contract to acquire) the vehicle before October 31, 1988, and

(4) The vehicle will be entered into the United States not later than October 31, 1992.

(h) The vehicle does not conform with all applicable Federal motor vehicle safety standards, but the importer is eligible to import it because:

(1) (S)he is a member of:

(A) The armed forces of a foreign country on assignment in the United States; or

(B) The Secretariat of a public international organization so designated under the International Organizations Immunities Act (22 U.S.C. 288), as listed in 19 CFR 148.47, on assignment in the United States; or

(C) The personnel of a foreign government for whom free entry of vehicles has been authorized by the Department of State; and

(D) The motor vehicle is being imported on a temporary basis, and for the personal use of the importer.

(2) (S)he will not sell the vehicle to any person in the United States, other than a person eligible to import a vehicle under this subsection; and

(3) (S)he will provide the Office of Foreign Missions of the State Department, before departing the United States at the conclusion of a tour of duty, with documentary proof that the vehicle is being, or has been, exported.

(i)(1) The vehicle was manufactured before January 1, 1968; or if a motorcycle, before January 1, 1969; or

(2) The equipment item was manufactured on a date when no applicable safety standards were in effect.

(j) The vehicle or equipment item does not conform with all applicable Federal motor vehicle safety

standards, but is being imported solely for the purpose of:

- (1) research;
- (2) investigations;
- (3) studies;
- (4) demonstrations or training; or (5) competitive racing events; and the importer has received written permission from NHTSA.

591.6 Documents accompanying declarations.

Declarations of eligibility for importation made pursuant to paragraph 591.5 must be accompanied by the following certification and documents, where applicable.

(a) A declaration made pursuant to paragraph 591.5(a) shall be accompanied by a statement substantiating that the vehicle was not manufactured for use on the public roads, or that the equipment item was not manufactured for use on a motor vehicle or is not an item of motor vehicle equipment.

(b) A declaration made pursuant to paragraph 591.5(e) shall be accompanied by:

(1) (for a motor vehicle) a document meeting the requirements of Paragraph 568.4 of Part 568 of this chapter.

(2) (for an item of motor vehicle equipment) a written statement issued by the manufacturer of the equipment item which states the applicable Federal motor vehicle safety standard(s) with which the equipment item is not in compliance, and which describes the further manufacturing required for the equipment item to perform its intended function.

(c) A declaration made pursuant to paragraph 591.5(f) shall be accompanied by a bond in an amount equal to 150% of the entered value of the vehicle as determined by the Secretary of the Treasury for the conformance of the vehicle with all applicable Federal motor vehicle safety standards, or, if conformance is not achieved, for the delivery of such vehicle to the Secretary of the Treasury for export at no cost to the United States, or for its abandonment.

(d) A declaration made pursuant to paragraph 591.5(f) by an importer who is not a Registered Importer shall be accompanied by a copy of the contract or other agreement that the importer has with a Registered Importer to bring the vehicle into conformance with all applicable Federal motor vehicle safety standards.

(e) A declaration made pursuant to paragraph 591.5(g) shall be accompanied by certification, in-

cluding appropriate documentary proof that the vehicle for which declaration is made had been acquired by the importer as of October 31, 1988, or, if not so acquired, by a copy of a contract to acquire the vehicle dated before October 31, 1988, which was binding upon the importer.

(f) A declaration made pursuant to paragraph 591.5(h) shall be accompanied by a copy of the importer's official orders or, if a qualifying member of the personnel of a foreign government on assignment in the United States, the name of the embassy to which the importer is accredited. A declaration made pursuant to paragraph 591.5(j) shall be accompanied by a letter from the Administrator authorizing importation pursuant to that paragraph. Any person seeking to import a motor vehicle or item of motor vehicle equipment pursuant to paragraph 591.5(j) shall submit in advance of such importation, a written request to the Administrator containing a full and complete statement identifying the specific purpose(s) of importation which describes the use to be made of the vehicle or equipment item. If use on the public roads is an integral part of the purpose for which the vehicle or equipment item is imported the statement shall request permission to license the vehicle for use (or use the equipment item) on the public roads, describing the purpose for which such use is necessary, and stating the estimated period of time necessary to use the vehicle or equipment item on the public roads. The statement shall also state the intended disposition to be made of the vehicle or equipment item after completion of the purpose for which it is imported. Any violation of a term or condition imposed by the Administrator shall be considered a violation of 15 U.S.C. 1397(a)(1)(A) for which a civil penalty may be imposed.

591.7 Restrictions on importations.

(a) A vehicle or equipment item which has entered the United States under a declaration made pursuant to paragraph 591.5(J), and for which a Temporary Importation Bond has been provided to the Secretary of the Treasury, shall not remain in the United States for a period that exceeds 3 years from its date of entry.

(b) A vehicle or equipment item which has entered the United States under a declaration made pursuant to paragraph 591.5(j), and for which duty has been paid, shall not remain in the United States for a period that exceeds 5 years from its date of entry unless written permission has been obtained from the Administrator, NHTSA.

(c) An importer of a vehicle which has entered the United States under a declaration made pursuant to paragraph 591.5(j) may license it for use on the public roads only if written permission has been granted by the Administrator, NHTSA, pursuant to paragraph 591.6(f).

Issued on Sept. 20, 1989.

54 F.R. 40069
September 29, 1989

PREAMBLE TO AN AMENDMENT TO PART 592

Registered Importers of Vehicles Not Originally Manufactured to Conform to Federal Motor Vehicle Safety Standards (Docket No. 89-6; Notice 2) RIN: 2127-AC97 Safety

ACTION: Final Rule

SUMMARY: With certain exceptions, the National Traffic and Motor Vehicle Safety Act, as amended by the Imported Vehicle Safety Compliance Act of 1988, will permit a motor vehicle not originally manufactured to conform to Federal motor vehicle safety standards to be imported only by a person who has registered with this agency, or by an individual who has a contract with a registered importer for making the modifications necessary for bringing the vehicle into conformance with applicable safety standards.

In partial implementation of the 1988 amendments, this rule adopts procedures and requirements regarding the registration of importers and the duties and obligations of registered importers. In most instances, the particular provisions of these procedures and requirements are mandated by the 1988 amendments.

Part 592 establishes eligibility requirements for persons wishing to acquire and maintain registration. Among the requirements are ones regarding record-keeping, allowance of inspection of records and facilities relating to the motor vehicles which the importer has imported and/or modified, certification to the Administrator that the vehicles have been brought into compliance, and insurance to ensure that the importer will be able technically and financially to carry out noncompliance and defect notification and remedy responsibilities should they arise. Part 592 also adopts procedures for revocation or suspension of importer registration (and reinstatement) for failures to pay required fees or comply with regulations, or for filing a misleading or false certification. The rule also adopts post-modification vehicle inspection and bond release procedures.

EFFECTIVE DATE: October 30, 1989.

SUPPLEMENTARY INFORMATION: On October 31, 1988, the President signed P.L. 100-562, the Imported Vehicle Safety Compliance Act of 1988 ("the 1988 Act"). Notice of its enactment was published in the *Federal Register* on December 5, 1988 (53 FR 49003),

and a notice of proposed rulemaking with respect to Part 592 was published on April 25, 1989 (54 FR 17780). As the notice stated, the 1988 Act amends those provisions of the National Traffic and Motor Vehicle Safety Act of 1966 ("the Vehicle Safety Act") (15 U.S.C. 1381, at 1397) that relate to the importation of motor vehicles subject to the Federal motor vehicle safety standards. Specifically, the amendments strike paragraphs (b)(3) and (b)(4) of 15 U.S.C. 1397, (Section 1397 may also be cited as Section 108 of the Vehicle Safety Act), redesignates paragraph (b)(5) as paragraph (b)(3), redesignates paragraph (c) of 15 U.S.C. 1397 as paragraph (k), and adds new paragraphs (c) through (j).

As the agency explained in its proposal, and now repeats so that readers will have an overview of Part 592, the category of importer primarily affected by the 1988 Act is the importer of a motor vehicle that was not originally manufactured to conform to the Federal motor vehicle safety standards that applied to vehicles of its type at the time of its original manufacture. Under the current regulation, 19 C.F.R. 12.80(b)(1)(iii), a nonconforming vehicle may be imported by any person. Under the 1988 Act, an importer will have to be, subject to certain exceptions, a "registered importer" (one who meets the statutory criteria and has registered with the agency pursuant to the terms and conditions of the regulation that this notice adopts), or an individual who has contracted with a registered importer. The principal obligations of the Registered Importer with respect to the vehicles it imports are (1) to bring those vehicles into compliance, or to demonstrate that they have been brought into compliance before importation, (2) to provide the Administrator with certification that the vehicles conform, and (3) in the event that noncompliances of safety related defects occur in vehicles it certifies, to notify owners, and provide a remedy. With respect to those vehicles it imports for resale, a Registered Importer falls within the long-standing definition of "manufacturer" under the Vehicle Safety Act and is responsible for notification of purchasers and remedy of noncompliances and safety related defects determined to exist in those vehicles. The 1988 Act adds a further responsibility; it

makes the Registered Importer responsible for notification and remedy covering any vehicle covered by its certificate of conformity to the standards, including vehicles imported by individuals who have contracted with the Register Importer, if a noncompliance or defect is determined to exist in substantially similar vehicles originally manufactured and certified for sale in the United States. However, the manufacturer or Registered Importer would be afforded an opportunity to demonstrate to NHTSA that the vehicles covered by the certification do not contain the noncompliance or defect.

NHTSA is attempting in this rulemaking action to formulate a program that will ensure that all imported motor vehicles conform to the Federal motor vehicle safety standards without imposing unnecessary burdens on importers. Therefore, NHTSA has tried in Part 592 to impose only those requirements that are mandated by the 1988 Act, with amplifications only where it appeared necessary to implement the safety intent of the statute.

There were 10 substantive comments on the proposed rule, including questions raised by telephone or letter. Four were received from manufacturers or authorized importers (General Motors Corporation, Volkswagen of America, Mercedes-Benz of North America, and IVECO), and on each from a foreign converter (Gerhard Feldevert), authorized import dealer association (The Dealer Action Association), an importer of Canadian vehicles (Auburn Motors, Inc.), a dealer association (National Automotive Dealer Association), a truck importer (LaPine Truck Sales and Equipment Co.), and a member of the public (George Ziolo). General comments and questions to other dockets by the States of Texas and Virginia, and U.S. Trade Corp. appeared relevant, and will be discussed.

Requirements for Registration as Importer

The requirements for registration as an importer and maintenance of registration are established by paragraph 592.5. Under the regulation adopted by this notice, any person who wishes to become a Registered Importer, and who has not previously has a registration revoked, may file an application with the Administrator (new section 108(c)(3)(D)(i)). Comments to the docket raised basic questions as to who is permitted to register, and under what circumstances registration is required. IVECO, a manufacturer, asked whether it is required to register when its activities include importing nonconforming vehicles for test purposes, or vehicles requiring further manufacturing operations. Volkswagen raised the possibility that it might import nonconforming cars, and conform then before sale in the United States. While seemingly recognizing that it would have to acquire registered status, it nevertheless argues that insurance and recordkeeping requirements

that NHTSA proposed for Registered Importers would be unnecessary, and it recommended that the final rule exempt original manufacturers from insurance and recordkeeping requirements. A letter from a foreign national, Gerhard Felevert, expressing a wish to become a Registered Importer, raises the question whether the 1988 Act permits a Registered Importer to be located outside the United States.

The principal obligation of a Registered Importer is to certify that a vehicle not originally manufactured in conformance with the Federal motor vehicle safety standards has been brought into conformity with them before it is licensed for use on the public roads. Since a vehicle requiring further manufacturing operations is a vehicle whose original manufacture is incomplete, its importer need not be a Registered Importer. This type of importation is governed exclusively by the special provision for it in section 108(e), thus excluding it from vehicles subject to Registered importer provisions of section 108(f). Similarly, vehicles imported for test purposes are governed by section 108(j), at section 108(f), and IVECO need not be a Registered Importer for these types of importations. On the other hand, Volkswagen correctly surmises that its hypothetical importation of nonconforming vehicles which it intends to conform before sale subjects it to the Registered Importer requirements. The 1988 Act does not distinguish between U.S. subsidiaries of major foreign automotive corporations and corner garages; any person wishing to import a nonconforming motor vehicle for sale in the United States must be a Registered Importer, or have a contract with a Registered Importer. Furthermore, the vehicle itself is subject to a determination by NHTSA of its eligibility for importation, and Volkswagen is required to petition for an agency decision under Part 593. To be sure, the sheer size of a company such as Volkswagen may justify a different treatment of the issue of financial capability. although NHTSA cannot adopt a different requirement in this final rule, it will study the matter with a view towards proposing, at an early date, an alternative method for factory-authorized importers, or corporations of a certain size, to demonstrate their financial capability to fulfill notification and remedy responsibilities.

Finally, it seems clear from the obligations imposed by statute upon Registered Importers that they must be a resident in the United States. The ability of NHTSA to inspect vehicles, records, and facilities to verify conformance and the capabilities of Registered Importers would be severely hampered if those entities were located beyond the direct jurisdiction of the Department of Transportation and subject to the laws of another country. Accordingly, NHTSA will consider and grant applications only from Registered Importers who are residents of, and whose facilities are located in

a "State" as defined by 15 U.S.C. 1391(8): the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, and the Commonwealth of the Northern Marianas.

Because section 108(c)(3)(D)(i) also provides that registration may be denied "to any person who is or was, directly or indirectly, owned or controlled by, or under common ownership or control with, a person who has had a registration revoked. . . .", as part of its application, an applicant will be required to disclose the names of its owners, shareholders, or partners (paragraph 592.5(a)(4)). In the opinion of Mercedes-Benz, the agency should define "common ownership" to include any ownership interest, no matter how small, in order to identify an importer whose registration has been revoked and who may hold a minority interest. The agency believes that its requirements will accomplish this, and that a definition is not required. If any of the owners are corporations, a requirement to provide the names of all shareholders might be unduly burdensome, and the regulation requires only that the names of shareholders whose ownership interest is 10 percent or more be supplied (paragraph 592.5(a)(5)). If the agency discovers that a revoked registrant has an ownership position in a Registered Importer or applicant, and may profit by the actions of the Importer (such as providing the facilities where the conversion work will occur), the agency will take this fact into consideration when it is reviewing applications or their renewals.

Chief among the registration requirements stated in section 108(c)(3)(D)(ii) is proof of financial ability to carry out notification and remedy responsibilities should a noncompliance or safety related defect be found in any vehicle the Registered Importer has imported and/or for whom it has furnished a certificate of conformity. In developing a provision addressing the financial ability of a Registered Importer to carry out its notification and remedial obligation, the agency was guided by the experience of the Environmental Protection Agency ("EPA") in developing and promulgating regulatory provisions addressing the financial ability of Independent Commercial Importers ("ICIs") to honor emissions warranties. (40 CFR 85.1510(b)(2)(i), 52 FR 36136). ICIs are importers of motor vehicles and engines, and have registered with the EPA. Some of them may register with NHTSA. Thus, a NHTSA requirement that parallels the EPA one is not likely to add significantly to the regulatory burden of those who import nonconforming vehicles subject to Federal regulations.

Commenters on EPA's regulations at the proposal stage, principally original equipment vehicle and engine manufacturers, and the State of California, suggested that ICIs acquire prepaid insurance and/or bonds to cover ICI warranty and recall liability for the useful life of each vehicle. There was no opposition from ICIs

regarding this concept. Based on its experiences under the California emissions standards for motor vehicles, the California Air Resources Board (CARB) noted that the modification industry is composed of small businesses, and argued that it is likely that a number of firms will fail over time. Without a requirement for an insurance policy or bond to cover warranty and recall repairs, owners of vehicles obtained from firms that are no longer in business would have to bear the warranty costs. CARB offers modifiers a choice between obtaining insurance or a bond.

EPA decided to require a prepaid mandatory service insurance policy that, in effect, assures effective warranty coverage. That agency reasoned that it was necessary to require a bond to assure an effective recall and warranty program. Because the prepaid mandatory service insurance policy seemed acceptable to modifiers as a means of assuring their performance regarding recalls and warranties, NHTSA proposed in paragraph 592.5(a)(8) that the application contain "a copy of a contract to acquire, effective upon its registration as an importer, a prepaid mandatory insurance policy underwritten by an independent insurance company, in an amount sufficient to ensure that the applicant will be able financially to remedy any noncompliance or safety related defect determined to exist in any vehicle for which it has furnished a certificate of conformity to the Administrator. . . ." However, NHTSA has no knowledge of the burden the insurance requirement might impose upon an applicant, and requested comments on this point. NHTSA also requested comments upon alternate appropriate means of assuring financial ability to carry out notification and remedial activities. Finally, NHTSA requested comments on the amount of insurance that would be necessary to demonstrate "sufficient financial responsibility," (section 108(d)(2)). The premium paid for such a policy would appear to encompass the relatively low costs of notification (i.e., discerning, through records or R.L. Polk, the names and addresses of vehicle owners), and the somewhat higher costs of remedy (through repair, repurchase, or replacement), as affected by the yearly number of vehicles for which the registered importer estimates it will submit certification. NHTSA understands that one company is currently insuring ICI's under EPA's program, but given the difference between Federal safety and emission standards the cost experience is not directly comparable.

Substantive comments were received on this issue from Mercedes-Benz, the Dealer Action Association, National Automotive Dealers Association, and U.S. Trade Corp. Mercedes stated that its remedial experience indicated that a prepaid insurance policy in an amount equal to \$2,000 per vehicle should be sufficient (adjusted annually for inflation), or 5% of the dutiable value of the vehicle), whichever is the lessor.

A similar comment was forthcoming from the Dealer Action Association, which suggested a surety bond as an alternative to the prepaid insurance policy, but for 5% of the dutiable value of the vehicle. It also commented that \$2,000, self-adjusting for inflation, seemed a fair estimate of remedial costs. U.S. Trade Corp., a potential applicant to become a Registered Importer, commented that a financial ability requirement parallel to that of EPA would probably not add much to the Registered Importer's burden, but would add to the costs to the consumer. It argued that possession of standard liability insurance that covers the work of each Registered Importer should be sufficient to cover the vehicle owner.

The agency has reviewed these comments. Given the historical fact that a large portion of nonconforming vehicles have been originally manufactured by Mercedes-Benz, NHTSA has carefully considered the comments of Mercedes-Benz of North America. The figure of \$2,000 per vehicle was supported by the Dealer Action Association, and, to NHTSA, appears a reasonable estimate of the costs to repair or replace a major component of a motor vehicle. The agency will review campaigns involving Registered Importers to determine whether this figure requires adjustment for inflation or other factors, but is not requiring a self-adjusting feature. Although a Registered Importer would be required, when repair is impossible, to replace the vehicle with an equivalent one, or repurchase the vehicle, at a cost that might well exceed \$2,000, such a contingency has occurred so infrequently in NHTSA's history that, for the present, the agency has concluded that it need not be a part of a Registered Importer's showing of financial capability. With respect to the alternative suggestion that the policy amount be 5% of the entered value of the vehicle, the agency observes that repair costs for older vehicles of low value could be as expensive as for newer models. Further, percentage calculations would appear to add variables into the process whereas a flat figure of \$2,000 per vehicle treats all vehicles on an equal basis.

Additional comments were offered. The Dealer Action Association recommended that the policy be sufficient to compensate authorized dealers when Registered Importers are unable to perform recall work. NADA suggested that NHTSA consider EPA's approach toward vehicle repair in the final rule, to ensure that repairs are adequately performed and paid for, if not performed by, the Registered Importer. It recommended that the vehicle owner be provided with a transferable copy of the service insurance contract to facilitate repairs at facilities other than those of the Registered Importer. Although oriented towards compensation of authorized dealers, these comments are directed towards situations where it may not be practicable for the owner of a vehicle to return the vehicle to the facilities of the Registered Importer, such as when the

Registered Importer is located at a great distance from the vehicle owner.

This possibility is a likely one, and of concern to NHTSA. In the agency's opinion, the Registered Importer's obligation to remedy without charge is an absolute one, and cannot be contingent upon the Importer itself performing the repairs, even for defects or noncompliances it has introduced in the conversion process. Thus the question is, how may NHTSA best ensure that repairs without charge be furnished a vehicle owner when repairs are performed by persons other than the Registered Importer. It was suggested that NHTSA consider EPA's approach, but the agency does not find this exactly on point. Under the provisions of the Clean Air Act, converters are required to supply owners with engine performance warranties. The warranties are required to be insured, transferable, and provide that warranty work may be performed anywhere if the converter's facility is not reasonably available (i.e., within 50 miles) 40 CFR 85.1510(b)(2). The regulation thus does not touch upon the mechanics of compensation for warranty work performed elsewhere. In the absence of regulatory guidance, NHTSA assumes that an owner pays for the repairs at the non-converter service facility, and presents the bill to the converter for reimbursement. If such a course were followed by owners of vehicles converted to meet the safety standards, it would meet the statutory requirement of remedy without charge, although the owner would be temporarily out of pocket for the repair expenses. However, a Registered Importer should have the right to impose reasonable restrictions upon the type of facility to which a vehicle for which it has remedial responsibility may be taken. A reasonable restriction would be that the vehicle must be repaired at a factory-authorized dealership for its make (e.g., a gray market Jaguar must be repaired by the service facilities of a Jaguar new-car dealership). Because the remedial obligation exists with respect to the vehicle and not the owner, no specific requirement for transferability of insurance is required. Some of the comments indicate that a form of insurance may be available under which a claim for compensation may be made by a non-converter repair facility directly to an insurance company. Remedy without charge through this mechanism would also fulfill the statutory requirement. The agency believes that the method of ensuring remedy without charge should be the choice of the person who is required to provide it. The requirement it is adopting in response to these comments is one that follows the EPA specification for allowance of repairs at alternate locations when the Registered Importer's facility is not reasonably available, and one which requires an explanation of how remedy without charge will be ensured. The agency notes that the Registered Importer must provide NHTSA with copies of its communications to vehicle owners, and must supply

the owner with NHTSA's address for complaints in the event remedy without charge is not provided. NHTSA therefore anticipates that no serious problems will arise. Further, it expects that authorized dealers, or others performing campaign repairs, will be adequately compensated.

In developing Part 592, the agency proposed that the application contain a statement whether the Registered Importer would modify the vehicles for which it will furnish certificates of conformity, and if not, to provide the names and address of all agents who would be the actual modifiers.

The concept that a Registered Importer could delegate actual conformance work was opposed by Mercedes-Benz and The Dealer Action Association. Both commenters argued that this did not fulfill the statutory purpose of increased accountability for conversions, and cited statements from the Congressional Record in support. In Mercedes' opinion, NHTSA would open an area of potential dispute when the object of the 1988 Act was to clarify NHTSA's jurisdiction. Conformance operations must be carried out by Registered Importers, their employees, or subsidiaries. The legal line between an "agent" and an "independent contractor" is not always clear, raising the possibility that a Registered Importer might structure a relationship to avoid acts of a modifier, including fraud.

NHTSA has carefully considered these comments. It believes that the provisions of the 1988 Act are complex enough that regulations should not be adopted that open additional avenues of potential dispute or complications with Registered Importers that might dilute the responsibility imposed by the 1988 Act, and which might result in less than full achievement of the intent of Congress when these approaches have not been specifically directed by Congress. Therefore, it agrees with the comments of Mercedes and The Dealer Action Association, and has not adopted those aspects of the proposal that countenanced delegation of conformance responsibilities to an agent.

The 1988 Act also requires that the regulation contain "provision for ensuring that the importer (or any successor in interest) will be able . . . to carry out the importer's responsibilities. . . relating to discovery, notification, and remedy of defects." Paragraph 592.5(a)(9) requires that the applicant show that it will maintain a system of VINs, and names and addresses of owners of vehicles for which it provides certifications. Although the 1988 Act contemplates that a Registered Importer could have a "successor in interest", NHTSA proposed that registrations not be transferable. Such a prohibition appears the most feasible way to ensure that notification responsibilities are met, as well as ensuring that transfers do not occur to Importers whose registration may have been revoked or suspended. There was no comment on this point, and, accordingly, the agency has adopted paragraph

592.5(g) which states that registrations are not transferable. If there is a change in ownership interest, such as a transfer resulting in a new person acquiring more than 10% of ownership, a Registered Importer must notify NHTSA (paragraph 592.5(f)). This paragraph requires notification of changes in any of the information supplied with the application. A registration will continue indefinitely until revoked or suspended. However, a Registered Importer, in order to maintain its registration, will be required to affirm annually that there has been no change in previously provided information (paragraph 592.5(e)). This should ensure that the financial ability of a Registered Importer can be monitored, and that fees are received in a timely manner.

Duties of a Registered Importer

Paragraph 592.6 sets forth the duties of a Registered Importer. The first duty specified is to provide a bond for each vehicle that it imports to ensure that it will bring the vehicle into conformance, or that it will be exported or abandoned to the United States (paragraph 592.6(a)).

The second duty required for a Registered Importer is that it establish, maintain, and retain for 8 years from the date of entry of a vehicle for which it furnishes a certificate of conformity the records specified in paragraph 592.6(b)(1) through (5), generally relating to substantiation of conformance work and vehicle ownership. Eight years was proposed because it is the period specified in the National Traffic and Motor Vehicle Safety Act for which a manufacturer is obligated to remedy a noncompliance or safety related defect at no cost to the vehicle owner (15 U.S.C. 1414(a)(1)(4)). For a fuller interpretation as to how the 8-year limit affects the obligations of a Registered Importer, the reader should consult the section of this notice discussing paragraph 592.6(f).

Comments on record-keeping were submitted by NADA and Mercedes-Benz. NADA commented that the final rule should emphasize the continuing duty of Registered Importers towards the vehicle, by requiring that they continually update their owner lists since notification obligations extend beyond first purchasers. It is true that there is a continuing obligation towards the vehicle, but NHTSA believes that existing notification procedures, which will be applicable to Registered Importers, sufficiently meet the need for safety. To require an updated list of owners would create an obligation that does not exist with respect to original manufacturers, and would be of questionable success should an owner fail to respond to a Registered Importer's query. Such a requirement would impose an unnecessary burden upon a Registered Importer. The vehicle is identifiable through its VIN and in the event of notification, the Registered Importer is required by 15 U.S.C. 1413(c)(1) to notify owners "whose

name and address is reasonably ascertainable by the manufacturer through State records or other sources available to him.” Mercedes-Benz commented that based upon past experience it is not likely that many gray market importers will remain in business for the normal useful life of the vehicles they certify. It recommended that the final rule address the issue of retention of records on dissolution of a business, and that Registered Importers be required to deliver all vehicle conformance records to NHTSA in this event in order to assure the ability to reach gray market owners. NHTSA believes that one effect of the 1988 Act will be that the number of gray market importers will be substantially reduced, and that those which remain will be relatively stable financially. Mercedes’ comment appears based upon the assumption that, in the absence of a Registered Importer *qua* manufacturer, NHTSA must make its own determination or non-compliance or safety related defect, and that its ability to notify owners in the aftermath of such determinations will be impaired without such records. This assumption is based upon an erroneous understanding of NHTSA’s procedures. The statutory purpose of NHTSA’s determinations is to order the manufacturer to notify and remedy when the manufacturer fails to make its own determination. If there is no viable manufacturer (or Registered Importer), NHTSA will not proceed to such a determination. Should safety considerations warrant, NHTSA may issue a press release advising owners of the conditions giving rise to concern and advise precautions to be taken. Thus, NHTSA has not adopted this suggestion.

The third major responsibility of a Registered Importer is to affix a certification label to each vehicle it conforms in the manner required of original vehicle manufacturers, which identifies the Registered Importer (paragraph 592.6(c)). NADA recommended that the certification label specifically designate the vehicle as “Nonconforming Import”, consistent with labels required for incomplete or intermediate vehicle manufacturers, that it include specific reference to conformance with Theft Prevention Act requirements, as well as language consistent with certification by alterers pursuant to 49 CFR 567.7(a). The agency declines to adopt the suggestions. The imported vehicle will presumably no longer be “Nonconforming” after its modification. Under existing regulations, certification to Theft Prevention requirements must be provided separately from certification to other standards (paragraph 567.4(k)), and no good reason has been advanced to require otherwise. Unlike the alterer, who supplements an existing certification, a Registered Importer certifies *de novo*, and thus must certify according to 49 CFR 567.4. As the person affixing the label to the vehicle under that regulation, the Registered Importer will be clearly identified, as will the original manufacturer or assembler of the vehicle.

The fourth duty of a Registered Importer is to provide NHTSA with certification upon completion of modifications that the vehicle conforms and that it is the party responsible for conformity (paragraph 592.6(d)). NHTSA proposed that substantiation of certification through photographic and documentary evidence be submitted for the initial certification provided for a specific model and model year only, and with subsequent certifications of that model and model year only if requested by NHTSA. The proposal has been adopted as written (paragraph 592.6(e)), although the Dealer Action Association argued that NHTSA should require full documentary evidence for each vehicle. In essence, NHTSA does: paragraph 592.6(b)(4) requires the Registered Importer to keep records both photographic and documentary reflecting the modifications made and submitted to NHTSA pursuant to paragraph 592.6(e), which must be made available to NHTSA to inspect (paragraph 592.6(g)). NHTSA does not wish to create unnecessary burdens upon either a Registered Importer or itself by requiring excessive documentation. If a Registered Importer fails in its obligations to conform the vehicle (not always apparent through photographic evidence), its registration may be suspended or revoked, and civil penalties imposed.

A Registered Importer also has notification and remedial obligations imposed by the 1988 Act. These obligations have been incumbent upon manufacturers of motor vehicles since enactment of the Vehicle Safety Act. Although a “manufacturer” includes any person importing motor vehicles for resale, these obligations have not always been understood or followed by importers for resale of nonconforming vehicles, nor have they always been enforced by NHTSA. However, Congress has specifically indicated its intent that these importers fulfill this sometimes dormant responsibility (section 103(d)), and broadened its applicability. For purposes of notification and remedy, the Registered Importer shall be treated as the manufacturer with respect to any motor vehicle that it imports (regardless of whether or not it imports the vehicle for resale), or brings into conformity on behalf of an individual importer who has a contract with it. Furthermore, if the vehicle is one that is substantially similar (as determined under Part 593) to one certified for sale in the United States by its original manufacturer, and a noncompliance or safety related defect is determined to exist in the substantially similar vehicle, the 1988 Act deems it to exist in the conformed vehicle as well, unless the manufacturer or Registered Importer can show otherwise. These obligations are reflected in paragraphs 592.6(f). NADA commented that the final rule should emphasize that this responsibility encompasses conditions created by the modification process, as well as incorporated into the vehicle by its original manufacturer. NHTSA regards this sug-

gestion as well made, and paragraph 592.6(f)(2) incorporates it.

In reviewing the relationship of the notification/remedial requirements of the 1988 Act to those already existing in the Vehicle Safety Act, NHTSA has identified an ambiguity as to the length of time for which remedy without cost must be provided. According to 15 U.S.C. 1414(a)(4), the requirement shall not apply "if the motor vehicle. . . was purchased by its first purchaser more than 8 years. . . before. . . notification is furnished. . . ." The general intent of Congress appears to be that manufacturers should not be required to provide free remedy for vehicles whose age exceeds 8 years, even if no corresponding limitation is imposed upon notification. If the date of first purchase is known for used imported nonconforming vehicles (such as through title documents accompanying it), there will be no difficulty determining when the 8-year period begins. However, if the date of first purchase is not known, NHTSA believes that any vehicle manufactured within 8 years of the date of notification should be eligible for remedy without charge. However, non-compliances or safety related defects could be created by a Registered Importer in the conformance process, and they may be introduced in an imported vehicle approaching or beyond an age of 8 model years. It seems fairest in this instance to regard conformance operations as a "manufacturing" process, and to commence the 8-year with the sale of the vehicle to its first purchaser, regardless of its age. Disagreements may arise as to whether a safety related defect is attributable to the manufacturer or the Registered Importer, but these will simply have to be handled on a *ad hoc* basis.

The agency also notes that one duty of a Registered Importer arises under the bond given upon importation of each vehicle: the fulfillment of the condition that if vehicle conformance is not achieved, the vehicle will be exported at no cost to the United States by the Secretary of the Treasury, or abandoned to the United States (section 108(c)(2)(B)). If this duty, set forth in paragraph 592.6(f), is not fulfilled, and the vehicle is sold without full conformance, not only will the bond be forfeit but grounds will then exist to suspend or revoke the Importer's registration.

A final question relating to the duties of a Registered Importer was asked by LaPine: who establishes the amount of charges to be made by the Registered Importer for conformance work? These charges are a matter of contract between the Registered Importer and the person for whom the work is done, and are not established by Federal regulations.

Revocation, suspension, and reinstatement of registration.

Paragraph 592.7 establishes the requirements for revocation, suspension, and reinstatement of the registration of Registered Importers.

Section 108(c)(3)(D)(iii) requires the Secretary to establish procedures for revoking or suspending the registration of any Registered Importer for failure to comply with any requirement of section 108 of the Vehicle Safety Act or of any regulation issued under that section. Those procedures are also required to provide for automatically suspending the registration of a Registered Importer which knowingly files a false or misleading certification, or fails to pay a required fee in a timely manner. To cover the expenses of the registration program and certain other activities, the statute provides that each Registered Importer will have to pay an annual fee; this fee will be established on a fiscal year basis. A Registered Importer under suspension may be reinstated when the cause giving rise to the suspension ceases to exist. In determining revocation or suspension, other than automatic suspension as provided by section 108(c)(3)(D)(iii) for non payment of fees or for knowingly filing a false or misleading certification, the Administrator will provide notice in writing to the Registered Importer, affording it an opportunity to present data, views, and arguments as to why its registration should not be suspended or revoked. Other than its provision for automatic suspension, the 1988 Act does not distinguish suspension for revocation; either may be invoked for failure to comply with any requirement of section 108 or the regulations issued under section 108. The agency interprets the 1988 Act as leaving the decision whether to suspend or to revoke to the discretion of the Administrator, with the exception of the automatic suspension provisions discussed above.

No comments were received on this aspect of the rulemaking, and it is adopted as proposed.

Inspection; release of vehicles and bond.

Paragraph 592.8 establishes the requirements for inspection of modified vehicles, and their release for registration, as well as release of the performance bond under which they entered. As is currently required, an importer of record, whether a Registered Importer or one who has a conformance contract with a Registered Importer, will have to furnish the Secretary of the Treasury (the U.S. Customs Service, acting for NHTSA), a bond for each vehicle it imports to ensure that the vehicle is brought into compliance with the safety standards, or that it is exported at no cost to the United States, or abandoned to the United States. When the modifications of an imported vehicle are completed, the Registered Importer will have to attach its label to the vehicle stating that it complies with the safety standards, and to certify that conformance to NHTSA. If the vehicle is one that the Administrator has determined to be substantially similar to one certified by its original manufacturer for sale in the U.S., the Registered Importer may rely in making its certification on the original manufacturer's certification with respect to identical safety features if it

certifies to the Administrator that its modifications did not affect compliance of the vehicle's safety features. Under the 1988 Act, the Registered Importer will be able to license the vehicle, or release the vehicle from its custody for licensing, 30 days after its submission of the certification to NHTSA. NHTSA, however, can demand an inspection of the vehicle within the 30-days period, or ask for certification verification. In that event, the vehicle can be released only upon the agency's written notice of its acceptance of the certification or written notice of its completion of an inspection that does not show any failure to comply. The vehicle and the performance bond can be released immediately upon issuance of either notification. Section 108(c)(3)(E)(v), added by the 1988 Act, provides that any release of bond, however, does not constitute a determination under section 152 of the Vehicle Safety Act that the vehicle conforms with all applicable standards.

Section 108(c)(3)(E)(i) requires NHTSA and the Secretary of the Treasury to establish procedures to ensure the release of a motor vehicle and bond at the expiration of the 30-day period, and this was proposed as paragraph 592.8(f). At the time of the proposal, it had not been determined whether the bond would be one of the U.S. Customs Service, or of NHTSA. The determination has been made that the bond will be NHTSA's, and therefore no such provision is required in the final rule. NHTSA will continue to inform Customs when requirements subject to the general importation bond (bumper and theft prevention standards) have been met, and will make these determinations contemporaneously with those regarding compliance with the safety standards.

These requirements were the subject of little comment. In paragraph 592.8(b), NHTSA had proposed that each submission shall be provided either by certified mail (return receipt requested), or electronically in a manner specified by NHTSA. George Ziolo found this too restrictive, and recommended allowing submission through private concerns and in person as well. This comment is well taken. It is important that a Registered Importer know when its submission has been received, and, hence, when the 30-day period has begun. Given the agency's own experience with failure to receive certified mail return receipts, it believes that a Registered Importer must be able to submit its certification in the manner it believes will best inform it of the date of receipt. The final rule is adopted as suggested. Further, NHTSA has specified in the final rule the electronic means it prefers, and has provided the FAX number of the agency.

Auburn Motors, an importer of cars from Canada, thought that Registered Importers of such cars should not have to wait 30 calendar days after submission of certification to be informed by NHTSA of their release. It should be noted that 30 days is the maximum period,

and it may well be that in practice bonds may be released more expeditiously.

The State of Texas asked for clarification of the events that would transpire in the event the bond was forfeited. In the event that NHTSA determines that the primary condition of the performance bond, the conformance of the vehicle, has not been met, the agency will demand fulfillment of one of the remaining two alternative conditions: the export of the vehicle at no cost to the United States, or its abandonment to the United States. NHTSA shall specify a time in which this is to be accomplished. Because the 1988 Act requires strict adherence to these provisions, it does not appear to allow the agency to consider petitions for mitigation on such grounds as hardship, or the achievement of partial compliance. If the bond is forfeited through failure to fulfill any of the three conditions of performance, NHTSA will review the circumstances of the case and, when appropriate, inform Customs that the importer appears to have made a false declaration under the conforming regulation, 19 CFR 12.80. Customs has appropriate sanctions, including the seizure of the vehicle, when violations of its regulations occur. Civil penalty sanctions may be also imposed by NHTSA. As discussed previously, if a Registered Importer forfeits a performance bond, its registration will be subject to suspension or revocation.

Commenting that in some jurisdictions a DOT bond release letter is required before registration of vehicles is allowed, Texas also asked what would occur if a vehicle is automatically released at the end of 30 days without a bond release letter having been issued. If a vehicle is automatically released from custody of the Registered Importer at the end of 30 days without a bond release letter having been issued, there are two possible scenarios. The first is that such a letter will be forthcoming if the certification is found acceptable. If the certification is unacceptable, no such letter will be forthcoming, and conformance problems will have to be resolved between NHTSA, the Registered Importer, and the owner of the car who presumably will have taken possession of it, but may have found himself unable to license it.

Virginia Department of Motor Vehicles wondered if NHTSA and EPA could issue a single release notice. NHTSA has previously considered the feasibility of parallel action with EPA such as a common declaration form. This does not appear practicable. Two different Federal agencies are involved, proceeding under two different legislative authorities, with their own distinctive requirements. Although the regulated persons are of the same class (importers of motor vehicles) there is not a sufficient identity of regulatory action to allow common forms or time frames. In fact, the motor vehicle standards administered by NHTSA itself that must be met by imported vehicles originate in three distinctly different regulatory authorities: Title I of

the National Traffic and Motor Vehicle Safety Act (safety standards), and Titles I (bumper standard) and VI (theft prevention) of the Motor Vehicle Information and Cost Savings Act.

In consideration of the foregoing, a new Part 592, *Registered Importers of Vehicles not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards*, is added to Title 49, Chapter V, to read as follows:

Part 592 *Registered Importers of Vehicles not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards*

Sec.

592.1 Scope.

592.2 Purpose.

592.3 Applicability.

592.4 Definitions.

592.5 Requirements for registration and its maintenance.

592.6 Duties of a Registered Importer.

592.7 Revocation, suspension and reinstatement of registration.

592.7 Inspection; release of vehicle and bond.

Authority: Pub. L. 100-562, 15 U.S.C. 1401, 1407; delegation of authority at 49 CFR 1.50.

592.1 Scope. This part establishes procedures under section 108(c)(3)(D) of the National Traffic and Motor Vehicle Safety Act, as amended (15 U.S.C. 1397(c)(3)(D)), for the registration of importers of motor vehicles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards. This part also establishes the duties of Registered Importers.

592.2 Purpose. The purpose of this part is to provide content and format requirements for person who wish to register with the Administrator as importers of motor vehicles not originally manufactured to conform to all applicable Federal motor vehicle safety standards, to provide procedures for the registration of importers and for the suspension, revocation and reinstatement of registration, and to set forth the duties required of Registered Importers.

592.3 Applicability. This part applies to any person who wishes to register with the Administrator as an importer of nonconforming vehicles, and to any person who is registered as an importer.

592.4 Definitions. All terms in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1391) are used as defined therein.

“Administrator” means the Administrator, National Highway Traffic Safety Administration.

“NHTSA” means the National Highway Traffic Safety Administration.

“Registered Importer” means any person that the Administrator has registered as an importer pursuant to paragraph 592.5(b).

592.5 Requirements for registration and its maintenance.

(a) Any person wishing to register as an importer of motor vehicles not originally manufactured to conform to all applicable Federal motor vehicle safety standards must file an application which:

(1) Is headed with the words “Application for Registration as Importer”, and submitted in three copies to: Administrator, National Highway Traffic Safety Administration, Washington, D.C. 20590, Attn: Importer Registration.

(2) Is written in the English language.

(3) Sets forth the full name, address, and title of the person preparing the application, and the name, address, and telephone number of the person for whom application is made.

(4) Sets forth, as applicable, the names of all owners, including shareholders, partners, or sole proprietors, of the person for whom application is made.

(5) If any of the owners listed in (4) above are corporations, sets forth the names of all shareholders of such corporation whose ownership interest is 10 per cent or greater.

(6) Contains a statement that the applicant has never had a registration revoked pursuant to paragraph 592.7, nor is it or was it, directly or indirectly, owned or controlled by, or under common ownership or control with, a person who has had a registration revoked pursuant to paragraph 592.7.

(7) Contains a certified check payable to the Treasurer of the United States, for the amount of the initial annual fee established pursuant to Part 594 of this chapter.

(8) Contains a copy of a contract to acquire, effective upon its registration as an importer, a prepaid mandatory service insurance policy underwritten by an independent insurance company, or a copy of such policy, in an amount that equals \$2,000 for each motor vehicle for which the applicant will furnish a certificate of conformity to the Administrator, for the purpose of ensuring that the applicant will be able financially to remedy any noncompliance or safety related defect determined to exist in any such motor vehicle in accordance with Part 573 and Part 577 of this chapter. If the application is accompanied by a copy of a contract to acquire such a policy, the applicant shall provide NHTSA with a copy of the policy within 10 days after it has been issued to the applicant.

(9) Sets forth in full data, views, and arguments of the applicant sufficient to establish that the applicant will be able, through a records system of acquiring and maintaining names and addresses of owners of vehicles for which it furnishes a certificate of conformity, and

Vehicle Identification Numbers (VINs) of such vehicles, to notify such owners that a noncompliance or safety related defect exists in such vehicles, and that it will be financially able to remedy a noncompliance or safety related defect through repurchase or replacement of such vehicles, or technically able through repair of such vehicles, in accordance with Part 573 and Part 577 of this chapter.

(10) Segregates and specifies any part of the information and data submitted under this part that the applicant wishes to have withheld from public disclosure in accordance with Part 512 of this chapter.

(11) Contains a statement that the applicant will fully comply with all duties of a registered importer as set forth in paragraph 592.6.

(12) Has the applicant's signature acknowledged by a notary public.

(b) If the information submitted is incomplete, the Administrator notifies the applicant of the areas of insufficiency, and that the application is in abeyance.

(c) If the Administrator deems it necessary for a determination upon the application, NHTSA conducts an inspection of the applicant and/or its agents. Subsequent to the inspection, NHTSA calculates the costs attributable to such inspection, and notifies the applicant in writing that such costs comprise a component of the initial annual fee and must be paid before a determination is made upon its application.

(d) When the application is complete (and, if applicable, when a sum representing the inspection component of the initial annual fee is paid), it is reviewed and a determination made whether the applicant should be granted the status of Registered Importer. Such determination may be based, in part, upon an inspection by NHTSA of the conformance, storage, and recordkeeping facilities of the applicant and agents, if any. If the Administrator determines that the application is acceptable, (s)he informs the applicant in writing that its application is approved, and issues it a Registered Importer Number. If the information is not acceptable, the Administrator informs the applicant in writing that its application is not approved. No refund is made of those components of the initial annual fee representing the remaining costs of administration of the registration program.

(e) In order to maintain its registration, a Registered Importer shall provide an annual statement that affirms that all information provided under paragraph (a)(4), (a)(5), (a)(6), (a)(9), and (a)(11) remains correct, and that includes a current copy of its insurance policy procured pursuant to paragraph (a)(8). Such statement shall be titled "Yearly Statement of Registered Importer", and shall be filed not later than October 31 of each year. A Registered Importer shall also pay such annual fee or fees as the Administrator may from time to time establish under Part 594 of this chapter. An

annual fee shall be paid not later than October 31 of any calendar year, and shall be the annual fee for the fiscal year than began on October 1 of that calendar year. Any other fee shall be payable not later than 30 calendar days after the date that the Administrator has notified the Registered Importer of it in writing.

(f) A Registered Importer shall notify the Administrator in writing of any change that occurs in the information which it submitted in its application, not later than the end of the 30th calendar day after such change.

(g) A registration granted under this part is not transferable.

592.6 Duties of a Registered Importer. Each Registered Importer shall:

(a) With respect to each motor vehicle that it imports into the United States, furnish to the Secretary of the Treasury (acting on behalf of the Administrator) a bond in an amount not less than the entered value of the vehicle, as determined by the Secretary of the Treasury, nor more than 150 per cent of such value, to ensure that such vehicle either will be brought into conformity with all applicable Federal motor vehicle safety standards prescribed under Part 571 of this chapter within 120 calendar days after such importation, or will be exported (at no cost to the United States) by the importer or the Secretary of the Treasury, or abandoned to the United States.

(b) Establish, maintain, and retain for 8 years from the date of entry of any nonconforming vehicle for which it furnishes a certificate of conformity pursuant to paragraph (e), organized records, correspondence and other documents relating to the importation, modification, and substantiation of certification of conformity to the Administrator, including but not limited to:

(1) The declaration required by paragraph 591.5 of this chapter, and 19 CFR 12.80.

(2) All vehicle or equipment purchase or sales orders or agreements, conformance agreements with importers other than Registered Importers, and correspondence between the Registered Importer and the owner or purchaser of each vehicle for which it has furnished a certificate of conformity.

(3) The last known name and address of the owner or purchaser of each motor vehicle for which it has furnished a certificate of conformity, and the VIN number of such vehicle.

(4) Records, both photographic and documentary, reflecting the modifications made and submitted to the Administrator pursuant to paragraph (e).

(5) Records, both photographic and documentary, sufficient to substantiate each subsequent certificate furnished to the Administrator for a vehicle of the same model and model year for which documentation

has been furnished NHTSA in support of the initial certificate.

(c) Permanently affix to each motor vehicle, upon completion of modifications, a label that meets the requirements of paragraph 567.4 of this chapter, which identifies the Registered Importer, and provide to the Administrator a photocopy of the label attesting that such vehicle has been brought into conformity with all applicable Federal motor vehicle safety and bumper standards.

(d) Certify to the Administrator, upon completion of modifications, that the vehicle has been brought into conformity with all applicable Federal motor vehicle safety and bumper standards, and that it is the person legally responsible for bringing the vehicle into conformity.

(e) In substantiation of the initial certification provided for a specific model and model year, submit to the Administrator photographic and documentary evidence of conformance with each applicable Federal motor vehicle safety and bumper standard, and with respect to subsequent certifications of such model and model year, such information, if any, as the Administrator may request.

(f) With respect to any motor vehicle for which it has furnished a certificate of conformity to the Administrator, provide notification and remedy according to Part 573 and Part 577 of this chapter, upon any determination:

(1) that a vehicle to which it is substantially similar, as determined under Part 593 of this chapter, incorporates a safety related defect or fails to conform with an applicable Federal motor vehicle safety standard. However, this obligation does not exist if the manufacturer of the vehicle or Registered Importer demonstrates to the Administrator that the defect or noncompliance is not present in such vehicle.

(2) that the vehicle incorporates a safety related defect or fails to conform with an applicable Federal motor vehicle safety standard, without reference to whether such may exist in a vehicle to which it is substantially similar, or whether such exists because it was created by the original manufacturer or by the Registered Importer.

The requirement of 15 U.S.C. 1414(a)(2)(B) that remedy shall be provided without charge shall not apply if the noncompliance or safety related defect exists in a motor vehicle whose first sale after importation occurred more than 8 calendar years before notification respecting the failure to comply is furnished pursuant to Part 577 of this chapter, except that if a safety related defect exists and is attributable to the original manufacturer and not the Registered Importer, the requirements of 15 U.S.C. 1414(a)(2)(B) shall not apply to a motor vehicle whose date of manufacture, as determined by the Administrator, is

more than 8 years from the date on which notification is furnished pursuant to Part 577 of this chapter.

Notification furnished pursuant to this paragraph and Part 577 of this chapter shall include the statement that in the absence of the Registered Importer's facility being within 50 miles of the owner's mailing address for performance of repairs, such repairs may be performed at a specific facility designated by the Registered Importer within 50 miles, or, if no such facility is designated, anywhere, and shall also include an explanation of how repair is to be accomplished without charge to the vehicle owner.

(g) In order to allow the Administrator to determine whether a Registered Importer is meeting its statutory responsibilities, admit representatives of NHTSA during operating hours, upon demand, and upon presentation of credentials, to copy documents, or to inspect, monitor, or photograph any of the following:

(1) Any facility where any vehicle, for which a Registered Importer has the responsibility of providing a certificate of conformity to applicable safety standards, is being modified, tested, or stored;

(2) Any facility where any record or other document relating to modification, testing, or storage of vehicles being conformed, is filed;

(3) Any part or aspect of activities relating to the modification, testing, and/or storage of vehicles by the Registered Importer.

(4) Any motor vehicle for which it has provided a certification of conformity to the Administrator, and which remains in its custody or under its control.

(h) Maintain in effect a prepaid mandatory service insurance policy underwritten by an independent insurance company as a guarantor of its performance under paragraph (f).

(i) With respect to any motor vehicle it has imported and for which it has furnished a performance bond, to deliver such vehicle to the Secretary of the Treasury for export, or to abandon it to the United States, upon demand by the Administrator if such vehicle has not been brought into conformity with all applicable Federal motor vehicle safety standards.

592.7 Revocation, suspension and reinstatement of registration.

(a) If the Administrator has not received any fee assessed and owing by the end of the 30th calendar day after such fee is due and payable, a registration is automatically suspended at the beginning of the 31st calendar day, and the Registered Importer is immediately notified in writing of the suspension at the address contained in its most recent annual statement or amendment thereof.

(b) If the Administrator has reason to believe that a Registered Importer has knowingly filed a false or misleading certification, and that its registration should be automatically suspended or revoked, (s)he notifies

the Registered Importer in writing of the facts giving rise to such reason to believe, affording an opportunity to present data, views, and arguments, either in writing or in person, within 30 calendar days after receipt of the Administrator's letter, as to whether it has submitted false or misleading certification, and as to why the registration ought not to be revoked or suspended. The Administrator then makes a decision after the 30-day period on the basis of all information then available. If, after consideration of all the data available, the Administrator determines that the Registered Importer has knowingly filed a false or misleading certification, the registration is automatically suspended or revoked, and the Registered Importer notified in writing. Any suspension or revocation is effective as of the date of the Administrator's determination. The Administrator shall state the period of any suspension in the notice to the Registered Importer.

(c) The Administrator may suspend a registration if a Registered Importer fails to comply with any requirement set forth in 15 U.S.C. 1397(c)(3)(D), paragraph 592.5(c), or paragraph 592.6, or if (s)he denies an application filed under paragraph 592.5(d). The Administrator may revoke a registration after any failure to comply with any such requirement, or if (s)he denies an application filed under paragraph 592.5(d). If the Administrator has reason to believe that there has been such a failure to comply and that the Registered Importer's registration should be revoked or suspended, (s)he notifies the Registered Importer in writing, affording an opportunity to present data, views, and arguments, either in writing or in person, within 30 calendar days after receipt of the Administrator's letter, as to whether there has been a failure to comply and as to why the registration ought not to be revoked or suspended. The Administrator then makes a decision after the 30-day period on the basis of all information then available. If the Administrator determines that a registration should be revoked or suspended, (s)he notifies the Registered Importer in writing. A revocation is effective immediately. A suspension is effective beginning with a date specified in the written notification.

(d) A Registered Importer whose registration has been revoked or suspended may request reconsideration of the revocation or suspension if the request is supported by factual matter which was not available to the Administrator at the time the registration was suspended or revoked.

(e) If its registration has been revoked, a Registered Importer is ineligible to apply for reregistration under this part. No refund is provided of any annual or other fees the Registered Importer has paid for the fiscal year in which its registration is revoked. If its registration has been suspended it may file an application for reinstatement of its registration.

(f) The Administrator shall reinstate a suspended registration if the cause that led to the suspension no

longer exists, as determined by the Administrator, either upon the Administrator's motion, or upon the submission of further information or fees by the Registered Importer.

592.8 Inspection; release of vehicle and bond.

(a) With respect to any motor vehicle for which it is obligated to provide a certificate of conformity to the Administrator as required by paragraph 592.6(d), a Registered Importer shall not obtain licensing or registration of the motor vehicle for use on the public roads, or release custody of it for such licensing and registration, except in accordance with the provisions of this section.

(b) When conformance modifications to a motor vehicle have been completed, a Registered Importer shall submit the certification required by paragraph 592.6(d) to the Administrator. In certifying a vehicle that the Administrator has determined to be substantially similar to one that has been certified by its original manufacturer for sale in the United States, the Registered Importer may rely on any certification by the original manufacturer with respect to identical safety features if it also certifies that any modification that it undertook did not affect the compliance of such safety features. Each submission shall be mailed by certified mail, return receipt requested, or by private carriers such as Federal Express, to: Administrator, National Highway Traffic Safety Administration, Washington D.C. 20590 ATTN: NEF-32, or be submitted electronically by FAX (202-366-2536), or in person. Each submission shall identify the location where the vehicle will be stored and is available for inspection, pending NHTSA action upon the submission.

(c) Before the end of the 30th calendar day after receipt of certification of a motor vehicle pursuant to paragraph 592.6(d), the Administrator may inform the Registered Importer in writing that an inspection of the vehicle is required to ascertain the veracity of the certification. Written notice includes a proposed inspection date, which is as soon as practicable. If inspection of the vehicle indicates that the vehicle has been properly certified, at the conclusion of the inspection the Registered Importer is provided an instrument of release. If inspection of the vehicle shows that the vehicle has not been properly certified, the Registered Importer shall either make the modifications necessary to substantiate its certification, and provide a new certification for the standard(s) in the manner provided for in paragraph (b), or deliver the vehicle to the Secretary of the Treasury for export, or abandon it to the United States. Before the end of the 30th calendar day after receipt of new certification, the Administrator may require a further inspection in accordance with the provisions of this subsection.

(d) The Administrator may by written notice request certification verification by the Registered Importer before the end of the 30th calendar day after the date

the certification was received by the Administrator. If the basis for such request is that the certification is false or contains a misrepresentation, the Registered Importer shall be afforded an opportunity to present written data, views, and arguments as to why the certification is not false or misleading or does not contain a misrepresentation. The Administrator may require an inspection pursuant to paragraph (c). The motor vehicle and performance bond involved shall not be released unless the Administrator is satisfied with the certification.

(e) If a Registered Importer has received no written notice from the Administrator by the end of the 30th calendar day after it has furnished a certification to the Administrator, the Registered Importer may release from custody the vehicle that is covered by the certification, or have it licensed or registered for use on the public roads.

(f) If the Administrator accepts a certification without requiring an inspection, (s)he notifies the Registered Importer in writing, and provides a copy to the importer of record. Such notification shall be provided

not later than the 25th calendar day after the Administrator has received such certification.

(g) Release of the performance bond shall constitute acceptance of certification or completion of inspection of the vehicle concerned, but shall not preclude a subsequent determination by the Administrator pursuant to section 152 of the Act (15 U.S.C. 1451) that the vehicle fails to conform to any applicable Federal motor vehicle safety standard.

Issued on: September 26, 1989

Jeffrey R. Miller
Acting Administrator

54 F.R. 40083
September 29, 1989

PREAMBLE TO AN AMENDMENT TO PART 592

Registered Importers of Vehicles Not Originally Manufactured to Conform to Federal Motor Vehicle Safety Standards (Docket No. 86-6; Notice 3) RIN: 2127-AC97

ACTION: Technical amendments; final rule

SUMMARY: This notice contains technical amendments of the final rule published on September 29, 1989, which established requirements for the registration of importers of motor vehicles not originally manufactured to conform to the Federal motor vehicle safety standards. References to agents of the registered importer in section 592.5(c) and (d) are deleted. The amount of the bond referred to in section 592.6(a) is corrected to accord with that prescribed in Part 591. A redundancy in paragraphing in that section is corrected by redesignating certain paragraphs. A word inadvertently omitted in section 592.8(g) is inserted.

EFFECTIVE DATE: November 19, 1989.

SUPPLEMENTARY INFORMATION: On September 29, 1989, the agency established 49 CFR Part 592 *Registered Importers of Vehicles Not Originally Manufactured to Conform to Federal Motor Vehicle Safety Standards* (54 FR 40083). This action was in partial implementation of P.L. 100-562 The Imported Vehicle Safety Compliance Act of 1988. Under section 592.8(a), one of the duties of a registered importer is to furnish a bond "in an amount not less than the entered value of the vehicle, as determined by the Secretary of the Treasury, nor more than 150% of such value", to ensure that the vehicle is brought into compliance with the Federal safety standards. This was the bond amount specified by the 1988 Act, and proposed by NHTSA. However, in developing the final rules implementing the 1988 Act, NHTSA decided to require that the performance bond be the higher value, 150% of the entered value of the vehicle. This decision was reflected in the final rule on importation of motor vehicles, 49 CFR Part 591 *Importation of Vehicles and Equipment Subject to Federal Motor Vehicle Safety Standards* (54 FR 40069). In this rule, an importer of a nonconforming vehicle declares, in pertinent part that he has furnished a bond equal to 150% of the entered value of the vehicle (section 591.5(f)(1)), and the importer's declaration must be accompanied by a bond

in an amount equal to 150% of the entered value of the vehicle (section 591.6(c)). Accordingly, NHTSA is amending section 592.8(a) to specify the amount of the bond required by Part 591.

When Part 592 was proposed, it was contemplated that a registered importer could have agents to perform the actual compliance modifications on vehicles for which it was obliged to provide a certification of conformity to the Administrator. Because of comments to the docket, the agency decided that the purpose of the legislation would be better accomplished if registered importers had direct responsibility for conformance work, and the final rule sought to delete all references to agents. However, the agency overlooked two references to agents, and sections 592.5(b) and (c) are amended to remove these references.

As published, section 592.6(b) is followed by another paragraph, also designated (b). This error is corrected by redesignating the second paragraph (b) as paragraph (c), and redesignating succeeding paragraphs as appropriate. There do not appear to be any cross-references in part 592 or any other regulation requiring correction.

Finally, in section 592.8(g), the word "bond" was inadvertently omitted after the word "performance", and has been reinstated.

In consideration of the foregoing Part 592 of 49 CFR is amended as follows:

The first sentence of section 592.5(c) is amended by deleting the phrase "and/or its agents" so that the sentence ends with the word "applicant."

The second sentence of section 592.5(d) is amended by deleting the phrase "and agents, if any" so that the sentence ends with the word "applicant."

Section 592.6(a) is amended by deleting the phrase "a bond in an amount not less than the entered value of the vehicle, as determined by the Secretary of the Treasury, nor more than 150 per cent of such value," and replacing it with the phrase "a bond in an amount equal to 150 per cent of the entered value of the vehicle, as determined by the Secretary of the Treasury,".

In section 592.6, the second paragraph (b) is redesignated paragraph (c). Paragraphs (c), (d), (e), (f), (g), (h),

and (i) of that section are redesignated respectively paragraphs (d), (e), (f), (g), (h), (i), and (j).

Section 592.8(g) is amended by adding the word “bond” between the words “performance” and “shall.”

Issued on: November 3, 1989

George L. Parker
Associate Administrator
for Enforcement

54 F.R. 47087
November 9, 1989

PART 592—REGISTERED IMPORTERS OF VEHICLES NOT ORIGINALLY MANUFACTURED TO CONFORM TO THE FEDERAL MOTOR VEHICLE SAFETY STANDARDS

592.1 Scope.

This part establishes procedures under section 108(c)(3)(D) of the National Traffic and Motor Vehicle Safety Act, as amended (15 U.S.C. 1397(c)(3)(D)), for the registration of importers of motor vehicles that were not originally manufactured to comply with all applicable Federal motor vehicle safety standards. This part also establishes the duties of Registered Importers.

592.2 Purpose.

The purpose of this part is to provide content and format requirements for persons who wish to register with the Administrator as importers of motor vehicles not originally manufactured to conform to all applicable Federal motor vehicle safety standards, to provide procedures for the registration of importers and for the suspension, revocation and reinstatement of registration, and to set forth the duties required of Registered Importers.

592.3 Applicability.

This part applies to any person who wishes to register with the Administrator as an importer of nonconforming vehicles, and to any person who is registered as an importer.

592.4 Definitions.

All terms in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1391) are used as defined therein.

“Administrator” means the Administrator National Highway Traffic Safety Administration.

“NHTSA” means the National Highway Traffic Safety Administration.

“Registered Importer” means any person that the Administrator has registered as an importer pursuant to paragraph 592.5(b).

592.5 Requirements for registration and its maintenance.

(a) Any person wishing to register as an importer of motor vehicles not originally manufactured to conform to all applicable Federal motor vehicle safety standards must file an application which:

(1) Is headed with the words “Application for Registration as Importer”, and submitted in three copies to: Administrator, National Highway Traffic Safety Administration, Washington, D.C. 20590, Attn: Importer Registration.

(2) Is written in the English language.

(3) Sets forth the full name, address, and title of the person preparing the application, and the name, address, and telephone number of the person for whom application is made.

(4) Sets forth, as applicable, the names of all owners, including shareholders, partners, or sole proprietors, of the person for whom application is made.

(5) If any of the owners listed in (4) above are corporations, sets forth the names of all shareholders of such corporation whose ownership interest is 10 per cent or greater.

(6) Contains a statement that the applicant has never had a registration revoked pursuant to paragraph 592.7, nor is it or was it, directly or indirectly, owned or controlled by, or under common ownership or control with, a person who has had a registration revoked pursuant to paragraph 592.7.

(7) Contains a certified check payable to the Treasurer of the United States, for the amount of the initial annual fee established pursuant to Part 594 of this chapter.

(8) Contains a copy of a contract to acquire, effective upon its registration as an importer, a prepaid mandatory service insurance policy underwritten by an independent insurance company, or a copy of such policy, in an amount that equals

\$2,000 for each motor vehicle for which the applicant will furnish a certificate of conformity to the Administrator, for the purpose of ensuring that the applicant will be able financially to remedy any non-compliance or safety related defect determined to exist in any such motor vehicle in accordance with Part 573 and Part 577 of this chapter. If the application is accompanied by a copy of a contract to acquire such a policy, the applicant shall provide NHTSA with a copy of the policy within 10 days after it has been issued to the applicant.

(9) Sets forth in full data, views, and arguments of the applicant sufficient to establish that the applicant will be able, through a records system of acquiring and maintaining names and addresses of owners of vehicles for which it furnishes a certificate of conformity, and Vehicle Identification Numbers (VINs) of such vehicles, to notify such owners that a noncompliance or safety related defect exists in such vehicles, and that it will be financially able to remedy a noncompliance or safety related defect through repurchase or replacement of such vehicles, or technically able through repair of such vehicles in accordance with Part 573 and Part 577 of this chapter.

(10) Segregates and specifies any part of the information and data submitted under this part that the applicant wishes to have withheld from public disclosure in accordance with Part 512 of this chapter.

(11) Contains a statement that the applicant will fully comply with all duties of a registered importer as set forth in paragraph 592.6.

(12) Has the applicant's signature acknowledged by a notary public.

(b) If the information submitted is incomplete, the Administrator notifies the applicant of the areas of insufficiency, and that the application is in abeyance.

(c) If the Administrator deems it necessary for a determination upon the application. NHTSA conducts an inspection of the applicant. Subsequent to the inspection, NHTSA calculates the costs attributable to such inspection, and notifies the applicant in writing that such costs comprise a component of the initial annual fee and must be paid before a determination is made upon its application.

(d) When the application is complete (and, if applicable, when a sum representing the inspection component of the initial annual fee is paid), it is reviewed and a determination made whether the applicant should be granted the status of Registered Importer. Such determination may be based, in part, upon an inspection by NHTSA of the conformance, storage, and recordkeeping facilities of the

applicant. If the Administrator determines that the application is acceptable, (s)he informs the applicant in writing that its application is approved and issues it a Registered Importer Number. If the information is not acceptable, the Administrator informs the applicant in writing that its application is not approved. No refund is made of those components of the initial annual fee representing the costs of processing the application, and conducting an inspection. Refund is made of that component of the initial annual fee representing the remaining costs of administration of the registration program.

(e) In order to maintain its registration, a Registered Importer shall provide an annual statement that affirms that all information provided under paragraphs (a)(4), (a)(5), (a)(6), (a)(9), and (a)(11) remains correct, and that includes a current copy of its insurance policy procured pursuant to paragraph (a)(8). Such statement shall be titled "Yearly Statement of Registered Importer", and shall be filed not later than October 31 of each year. A Registered Importer shall also pay such annual fee or fees as the Administrator may from time to time establish under Part 594 of this chapter. An annual fee shall be paid not later than October 31 of any calendar year, and shall be the annual fee for the fiscal year that began on October 1 of that calendar year. Any other fee shall be payable not later than 30 calendar days after the date that the Administrator has notified the Registered Importer of it in writing.

(f) A Registered Importer shall notify the Administrator in writing of any change that occurs in the information which it submitted in its application, not later than the end of the 30th calendar day after such change.

(g) A registration granted under this part is not transferable.

592.6 Duties of a Registered Importer.

Each Registered Importer shall:

(a) With respect to each motor vehicle that it imports into the United States, furnish to the Secretary of the Treasury (acting on behalf of the Administrator) [a bond in an amount equal to 150 percent of the entered value of the vehicle, as determined by the Secretary of the Treasury,] to ensure that such vehicle either will be brought into conformity with all applicable Federal motor vehicle safety standards prescribed under Part 571 of this chapter within 120 calendar days after such importation, or will be exported (at no cost to the United States) by the importer or the Secretary of the Treasury, or abandoned to the United States.

[(c)] Establish, maintain, and retain for 8 years from the date of entry of any nonconforming vehicle for which it furnishes a certificate of conformity pursuant to paragraph (e), organized records, correspondence and other documents relating to the importation, modification, and substantiation of certification of conformity to the Administrator, including but not limited to:

(1) The declaration required by paragraph 591.5 of this chapter, and 19 CFR 12.80.

(2) All vehicle or equipment purchase or sales orders or agreements, conformance agreements with importers other than Registered Importers, and correspondence between the Registered Importer and the owner or purchaser of each vehicle for which it has furnished a certificate of conformity.

(3) The last known name and address of the owner or purchaser of each motor vehicle for which it has furnished a certificate of conformity, and the VIN number of such vehicle.

(4) Records, both photographic and documentary, reflecting the modifications made and submitted to the Administrator pursuant to paragraph (e).

(5) Records, both photographic and documentary, sufficient to substantiate each subsequent certificate furnished to the Administrator for a vehicle of the same model and model year for which documentation has been furnished NHTSA in support of the initial certificate.

[(d)] Permanently affix to each motor vehicle, upon completion of modifications, a label that meets the requirements of paragraph 567.4 of this chapter, which identifies the Registered Importer, and provide to the Administrator a photocopy of the label attesting that such vehicle has been brought into conformity with all applicable Federal motor vehicle safety and bumper standards.

[(e)] Certify to the Administrator, upon completion of modifications that the vehicle has been brought into conformity with all applicable Federal motor vehicle safety and bumper standards, and that it is the person legally responsible for bringing the vehicle into conformity.

[(f)] In substantiation of the initial certification provided for a specific model and model year, submit to the Administrator photographic and documentary evidence of conformance with each applicable Federal motor vehicle safety and bumper standard, and with respect to subsequent

certifications of such model and model year, such information, if any, as the Administrator may request.

[(g)] With respect to any motor vehicle for which it has furnished a certificate of conformity to the Administrator, provide notification and remedy according to Part 573 and Part 577 of this chapter upon any determination:

(1) that a vehicle to which it is substantially similar, as determined under Part 593 of this chapter, incorporates a safety related defect or fails to conform with an applicable Federal motor vehicle safety standard. However, this obligation does not exist if the manufacturer of the vehicle or Registered Importer demonstrates to the Administrator that the defect or noncompliance is not present in such vehicle.

(2) that the vehicle incorporates a safety related defect or fails to conform with an applicable Federal motor vehicle safety standard, without reference to whether such may exist in a vehicle to which it is substantially similar, or whether such exists because it was created by the original manufacturer or by the Registered Importer.

The requirement of 15 U.S.C. 1414(a)(2)(B) that remedy shall be provided without charge shall not apply if the noncompliance or safety related defect exists in a motor vehicle whose first sale after importation occurred more than 3 calendar years before notification respecting the failure to comply is furnished pursuant to Part 577 of this chapter, except that if a safety related defect exists and is attributable to the original manufacturer and not the Registered Importer, the requirements of 15 U.S.C. 1414(a)(2)(B) shall not apply to a motor vehicle whose date of first purchase, if known, or, if not known, whose date of manufacture as determined by the Administrator, is more than 8 years from the date on which notification is furnished pursuant to Part 577 of this chapter.

Notification furnished pursuant to this paragraph and Part 577 of this chapter shall include the statement that in the absence of the Registered Importer's facility being within 50 miles of the owner's mailing address for performance of repairs, such repairs may be performed at a specific facility designated by the Registered Importer within 50 miles, or, if no such facility is designated, anywhere, and shall also include an explanation how repair is to be accomplished without charge to the vehicle owner.

[(h)] In order to allow the Administrator to determine whether a Registered Importer is meeting its statutory responsibilities, admit representatives of NHTSA during operating hours, upon demand, and upon presentation of credentials, to copy documents, or to inspect, monitor, or photograph any of the following:

(1) Any facility where any vehicle, for which a Registered Importer has the responsibility of providing a certificate of conformity to applicable safety standards, is being modified, tested, or stored;

(2) Any facility where any record or other document relating to modification, testing, or storage of vehicles being conformed, is filed;

(3) Any part or aspect of activities relating to the modification, testing, and/or storage of vehicles by the Registered Importer.

(4) Any motor vehicle for which it has provided a certification of conformity to the Administrator, and which remains in its custody or under its control.

[(i)] Maintain in effect a prepaid mandatory service insurance policy underwritten by an independent insurance company as a guarantor of its performance under paragraph (f).

[(j)] With respect to any motor vehicle it has imported and for which it has furnished a performance bond, to deliver such vehicle to the Secretary of the Treasury for export, or to abandon it to the United States, upon demand by the Administrator if such vehicle has not been brought into conformity with all applicable Federal motor vehicle safety standards. (54 F.R. 40083—November 9, 1989. Effective: November 9, 1989)

592.7 Revocation, suspension and reinstatement of registration.

(a) If the Administrator has not received any fee assessed and owing by the end of the 30th calendar day after such fee is due and payable, a registration is automatically suspended at the beginning of the 31st calendar day, and the Registered Importer is immediately notified in writing of the suspension at the address contained in its most recent annual statement or amendment thereof.

(b) If the Administrator has reason to believe that a Registered Importer has knowingly filed a false or misleading certification and that its registration should be automatically suspended or revoked, (s)he notifies the Registered Importer in writing of the facts giving rise to such reason to believe, affording

an opportunity to present data, views, and arguments, either in writing or in person, within 30 calendar days after receipt of the Administrator's letter, as to whether it has submitted false or misleading certification, and as to why the registration ought not to be revoked or suspended. The Administrator then makes a decision after the 30-day period on the basis of all information then available. If, after consideration of all the data available, the Administrator determines that the Registered Importer has knowingly filed a false or misleading certification, the registration is automatically suspended or revoked, and the Registered Importer notified in writing. Any suspension or revocation is effective as of the date of the Administrator's determination. The Administrator shall state the period of any suspension in the notice to the Registered Importer.

(c) The Administrator may suspend a registration if a Registered Importer fails to comply with any requirement set forth in 15 U.S.C. 1397(c)(3)(D), paragraph 592.5(c), or paragraph 592.6, or if s(he) denies an application filed under paragraph 592.5(d). The Administrator may revoke a registration after any failure to comply with any such requirement, or if (s)he denies an application filed under paragraph 592.5(d). If the Administrator has reason to believe that there has been such a failure to comply and that the Registered Importer's registration should be revoked or suspended, (s)he notifies the Registered Importer in writing, affording an opportunity to present data, views, and arguments, either in writing or in person, within 30 calendar days after receipt of the Administrator's letter, as to whether there has been a failure to comply and as to why the registration ought not to be revoked or suspended. The Administrator then makes a decision after the 30-day period on the basis of all information then available. If the Administrator determines that a registration should be revoked or suspended, (s)he notifies the Registered Importer in writing. A revocation is effective immediately. A suspension is effective beginning with a date specified in the written notification.

(d) A Registered Importer whose registration has been revoked or suspended may request reconsideration of the revocation or suspension if the request is supported by factual matter which was not available to the Administrator at the time the registration was suspended or revoked.

(e) If its registration has been revoked, a Registered Importer is ineligible to apply for

reregistration under this part. No refund is provided of any annual or other fees the Registered Importer has paid for the fiscal year in which its registration is revoked. If its registration has been suspended it may file an application for reinstatement of its registration.

(f) The Administrator shall reinstate a suspended registration if the cause that led to the suspension no longer exists, as determined by the Administrator, either upon the Administrator's motion, or upon the submission of further information or fees by the Registered Importer.

592.8 Inspection; release of vehicle and bond.

(a) With respect to any motor vehicle for which it is obligated to provide a certificate of conformity to the Administrator as required by paragraph 592.6(d), a Registered Importer shall not obtain licensing or registration of the motor vehicle for use on the public roads, or release custody of it for such licensing and registration, except in accordance with the provisions of this section.

(b) When conformance modifications to a motor vehicle have been completed, a Registered Importer shall submit the certification required by paragraph 592.6(d) to the Administrator. In certifying a vehicle that the Administrator has determined to be substantially similar to one that has been certified by its original manufacturer for sale in the United States, the Registered Importer may rely on any certification by the original manufacturer with respect to identical safety features if it also certifies that any modification that it undertook did not affect the compliance of such safety features. Each submission shall be mailed by certified mail, return receipt requested, or by private carriers such as Federal Express, to: Administrator, National Highway Traffic Safety Administration, Washington, D.C., 20590 ATTN: NEF-32, or be submitted electronically by FAX (202-366-2536), or in person. Each submission shall identify the location where the vehicle will be stored and is available for inspection, pending NHTSA action upon the submission.

(c) Before the end of the 30th calendar day after receipt of certification of a motor vehicle pursuant to paragraph 592.6(d), the Administrator may inform the Registered Importer in writing that an inspection of the vehicle is required to ascertain the veracity of the certification. Written notice includes a proposed inspection date, which is as soon as practicable. If inspection of the vehicle indicates that the vehicle has been properly certified, at the conclusion

of the inspection the Registered Importer is provided an instrument of release. If inspection of the vehicle shows that the vehicle has not been properly certified, the Registered Importer shall either make the modifications necessary to substantiate its certification, and provide a new certification for the standard(s) in the manner provided for in paragraph (b), or deliver the vehicle to the Secretary of the Treasury for export, or abandon it to the United States. Before the end of the 30th calendar day after receipt of new certification, the Administrator may require a further inspection in accordance with the provisions of this subsection.

(d) The Administrator may by written notice request certification verification by the Registered Importer before the end of the 30th calendar day after the date the certification was received by the Administrator. If the basis for such request is that the certification is false or contains a misrepresentation, the Registered Importer shall be afforded an opportunity to present written data, views, and arguments as to why the certification is not false or misleading or does not contain a misrepresentation. The Administrator may require an inspection pursuant to paragraph (c). The motor vehicle and performance bond involved shall not be released unless the Administrator is satisfied with the certification.

(e) If a Registered Importer has received no written notice from the Administrator by the end of the 30th calendar day after it has furnished a certification to the Administrator, the Registered Importer may release from custody the vehicle that is covered by the certification, or have it licensed or registered for use on the public roads.

(f) If the Administrator accepts a certification without requiring an inspection, (s)he notifies the Registered Importer in writing, and provides a copy to the importer of record. Such notification shall be provided not later than the 25th calendar day after the Administrator has received such certification.

(g) Release of the performance bond shall constitute acceptance of certification or completion of inspection of the vehicle concerned, but shall not preclude a subsequent determination by the Administrator pursuant to section 152 of the Act (15 U.S.C. 1451) that the vehicle fails to conform to any applicable Federal motor vehicle safety standard.

Issued on September 26, 1989.

54 F.R. 40083

September 29, 1989

PREAMBLE TO AN AMENDMENT TO PART 593

Determinations That a Vehicle Not Originally Manufactured to Conform to Federal Motor Vehicle Safety Standards is Eligible for Importation) (Docket No. 89-7; Notice 2) RIN: 2127-AC99

ACTION: Final rule

SUMMARY: Effective January 31, 1990, the National Traffic and Motor Vehicle Safety Act, as amended by the Imported Vehicle Safety Compliance Act of 1988, will place new limits on the importation of foreign motor vehicles not originally manufactured to meet Federal motor vehicle safety standards. The 1988 amendments prohibit, with certain exceptions, the importation of such a vehicle unless it is a model that meets specified eligibility criteria. The criteria are that the model is determined by this agency to be substantially similar to one that was originally manufactured for importation and sale into the United States, and that it is capable of being readily modified to conform to the Federal safety standards. Alternatively, for a model for which there is not a substantially similar vehicle, the agency must determine that the safety features of the model comply or are capable of being modified to comply with the safety standards. This rule adopts procedural regulations for petitions and for determinations regarding the meeting of these criteria. Most details of the rule are dictated by the 1988 amendments.

EFFECTIVE DATE: October 30, 1989

SUPPLEMENTARY INFORMATION: On October 31, 1988, the President signed into law the Imported Vehicle Safety Compliance Act of 1988, P.L. 100-562 ("the 1988 Act"). The Act amends those provisions of the National Traffic and Motor Vehicle Safety Act of 1966 ("the Vehicle Safety Act") that relate to the importation of motor vehicles subject to the Federal motor vehicle safety standards (Section 108(b), 15 U.S.C. 1397(b)). The 1988 Act imposes restrictions upon the eligibility of motor vehicles for importation. The principal restriction upon a motor vehicle is that it cannot be imported at all unless NHTSA determines that the motor vehicle model is capable of modification to meet the Federal safety standards. Determinations will be made on NHTSA's own initiative, or upon

petition of any registered importer (see discussion below) or any motor vehicle manufacturer, and will be subject to public comment. A notice of proposed rulemaking on this subject was published on April 25, 1989 (54 FR 17786).

As the agency explained in the notice, and repeats here so that readers may have an overview of the determination process, a nonconforming vehicle may be imported under either of the following two scenarios. The first scenario will involve the making of two determinations by the agency: that the nonconforming model is substantially similar to a model of the same "model year" which was originally manufactured for importation into and sale in the U.S. and was certified as conforming to the Federal safety standards, and that a vehicle belonging to the model is capable of being readily modified to conform fully with the applicable standards.

The second scenario will arise if the agency has not made a substantial similarity determination regarding a model. In that case, it will still be permissible to import a vehicle of that model if the agency determines that its safety features comply with the U.S. standards, or are capable of being modified to comply with those standards, "based on destructive crash data or such other evidence" as NHTSA determines is adequate.

Under either scenario, a positive determination regarding a model will permit *any* registered importer to import vehicles of the same model that are covered by that determination.

If the agency makes a negative determination regarding a model's ability to be modified, the agency will be temporarily prohibited from taking up the issue again. If the decision was made in response to a petition, the 1988 Act prohibits the agency from considering a petition regarding the same model of vehicle until at least 3 months after that decision. If the negative determination was made in a proceeding begun at the agency's own initiative, the agency will not be able to make another determination regarding the same model of motor vehicle until at least 3 months after the negative one.

NHTSA is attempting in this rulemaking action to formulate a program that will ensure that all imported motor vehicles conform to the Federal motor vehicle safety standards without imposing unnecessary burdens on importers. Therefore, NHTSA has tried in this rule to impose only those requirements that are mandated by the 1988 Act, with amplifications only where it appeared necessary to implement the safety intent of the statute.

There were four substantive comments submitted on the proposal, by Mercedes-Benz of North America, Auburn Motors, Europa International, Inc., and George Ziolo.

593.5 Petitions for eligibility determinations.

Paragraph 593.5 establishes the requirements for submissions of petitions for determinations that a motor vehicle not originally manufactured to conform with the Federal motor vehicle safety standards is eligible for importation into the United State. New section 108(c)(3)(C)(i)(I) of the Vehicle Safety Act requires the Administrator to make eligibility determinations “on the petition of any registered importer or any manufacturer”. Under this Act, a “manufacturer” is defined to include any person who imports vehicles for resale. Thus, “manufacturer” excludes the individual who imports a vehicle, through a registered importer, for his or her own use. It also excludes the general public and trade associations.

The basic procedural requirements for a petition are similar to those the agency specifies for other petitions: that they be in the English language, state the full name and address of the petitioner, be submitted in 3 copies to the Administrator, state the basis upon which petition is made, and specify any part of the submission for which confidential treatment is requested. The petition must be accompanied by a certified check for the amount of the vehicle eligibility petition fee established in accordance with Part 594.

Europa International asked that documentation substantiating vehicle alterations be withheld from public dockets for proprietary reasons, as its release would enable others to modify without compensation to the original registered importer. This is a request that must be made by a petitioner when petitioning. In the absence of such a request, confidential treatment will not be afforded by NHTSA. When a request for confidentiality is made, the request is referred to the Office of Chief Counsel for a determination, and the petitioner informed of such a determination. The agency proposed (and is adopting) paragraph 593.10(b) under which information made available for public inspection does not include information for which confidentiality has been requested and granted. With specific reference to Europa’s comment, NHTSA notes that paragraph (b) provides that “to the extent that a petition contains material relating to the methodology by which the petitioner intends to achieve conformance

with a specific standard, the petitioner may request confidential treatment of such material on the grounds that it contains a trade secret or confidential information”.

Those who wish to request confidential treatment should be advised that consideration of the merits of the petition will be in abeyance until resolution of confidentiality requests, and that this delay should be taken into consideration in the petitioner’s plans. Therefore, petitioners are encouraged to make arguments relating to a vehicle’s capability of conformance that minimize discussion of specific design solutions of a possibly proprietary nature (which are entirely appropriate as support for certificates of conformity).

593.6 Basis for petition.

Paragraph 593.6 details the information to be provided in support of the petition. In accordance with the proposal, the agency has not specified the number and types of components that must be identified as capable of modification in order to demonstrate compliance with each applicable standard (the petitioner must, of course, show that a vehicle is readily modifiable, or capable of modification, as the case may be, so that it will comply with *all* applicable safety standards). Since the Federal motor vehicle safety standards are performance standards, NHTSA believes that registered importers, like original manufacturers, should be free to reach individual design solutions. Whether a petitioner’s arguments are persuasive will be reflected in the agency’s eventual determination. NHTSA’s conclusions will be explained in a notice of determination published in the *Federal Register*.

593.6(a) petitions on the basis of substantial similarity.

If the basis of the petition is that the model for which a determination is sought is substantially similar to one that was originally manufactured for importation into and sale in the United States, and which bore a certification of compliance affixed by its original manufacturer, the petitioner must identify the original manufacturer of the certified vehicle, and the model and model year of the vehicle to be compared (paragraph 593.6(a)(1) and (2)), and substantiate that the certified vehicle was in fact certified (paragraph 593.6(a)(3)). It must also submit data, views, and arguments, with respect to each applicable Federal motor vehicle safety standard, that the vehicle is capable of being readily modified to meet that standard (paragraph 593.6(a)(4) and (5)).

The phrases “substantially similar” and “capable of being readily modified” are not defined by the 1988 Act. However, NHTSA begins with the assumption that a vehicle that is “substantially similar” to one that was originally manufactured for importation and sale in the United States which bore its original manufacturer’s certification is one whose visual appearance and structural details are “substantially similar” to the certified model. For example, a Renault

21 manufactured in France could be viewed as “substantially similar” to the Renault/Eagle Medallion, manufactured in France and certified by Renault for sale in the United States because its exterior sheet-metal appears virtually identical. On the other hand, a Renault 25 manufactured in France would not be viewed as substantially similar to the Eagle Premier manufactured in Canada and certified by Chrysler for sale in the United States, even though Chrysler purchases the platform and drive train of the Premier from Renault. Both its exterior and interior appearance and components differ from that of the Premier. There is no common exterior sheetmetal, different dash panels and seats are provided, and there is no interchangeability between doors and glazing. Comments were requested on the degree of interior and exterior similarity of appearance and structural details, and on the extent of parts interchangeability necessary to support a determination of substantial similarity. Comments were also requested as to what parts are most critically related to compliance with the standards, particularly those standards which specify dynamic vehicle crash testing or other types of destructive testing.

Obviously, if a vehicle already conforms to a safety standard, the question of modification capability is not reached. To substantiate that no modifications are required with respect to that standard, a petition may be supported by a letter from the vehicle’s original manufacturer confirming that the vehicle model under consideration was manufactured to comply with the standard. This method of substantiation would be appropriate for petitions based on substantial similarity as well as for petitions which are not so based.

Auburn Motors commented that recognition should be given that vehicles certified as meeting Canadian standards are virtually identical to U.S. ones, and that they should be exempted from the final rule. It submitted a letter from American Honda stating that in model years 1988 and 1989, cars manufactured for both markets were identical. The agency notes that, at the present time, there is a notable similarity between the U.S. and Canadian motor vehicle safety standards. However, since they are not in all respects similar, it cannot grant Auburn’s request. NHTSA does believe that there is a strong basis on which a petitioner could argue that there is a “substantial similarity” of Canadian vehicles compared with U.S. ones. Further, if the Canadian-manufactured Hondas are not certified as meeting U.S. standards, the manufacturer’s letter attesting to identity could serve as the basis for the certificate of conformity that the Registered Importer of such vehicle must provide the Administrator. In summary, the agency recognizes that importers of vehicles certified as meeting the Canadian Standards but not the U.S. ones will have a less difficult time of meeting the criteria of the 1988 Act than importers of

vehicles manufactured to conform to European or Asian standards.

As for whether a vehicle is “capable of being readily modified”, NHTSA’s proposal suggested, as the first level of decision, that many components that are visible when the vehicle is fully assembled may be considered capable of being readily modified when they may be easily replaced with parts intended as replacement for conforming parts on substantially similar certified vehicles. For passenger cars, these components would include, but are not limited to, tires (Standard No. 109), rims (Standard No. 110), and wheel cover (Standard No. 211), glazing marking (Standard No. 205), reflecting surfaces (Standard No. 107), controls and displays (Standard No. 101), and lighting devices (Standard No. 108). Other components, not readily visible, are also easily replaced with conforming parts. These include brake hoses (Standard No. 106), and brake fluid (Standard No. 116). In this event, the petitioner could provide in its petition the part numbers of the components that would be substituted to achieve conformance. In its comment, Mercedes-Benz observed that these components could be those with the same part numbers utilized by the original manufacturer during the same model year and on the same model.

However, this first level of decision, based upon replacement of parts, could not determine conformance with vehicle rather than equipment standards. Visual inspection would not indicate whether the steering column would need to be replaced so that the vehicle would comply with Standard No. 204, or whether the interior fabrics (other than leather) would meet the flammability resistance required by Standard No. 302, because these tests incorporate destructive demonstration procedures.

The second level of decision then rests upon the question of whether the modifications necessary for conformance are “readily” achievable. In this instance, a petitioner would be expected to submit data showing that conformance can be achieved without extensive modifications, i.e., information demonstrating that compliance can be achieved without major structural modifications or destructive component testing. A major structural modification could mean, for example, strengthening of the rear frame bars in order to achieve conformance with Standard No. 301. An example of a non-major structural modification could be installation of windshield retaining clips for conformance with Standard No. 212. On the assumption that a “substantially similar” vehicle may be more likely to incorporate structural features of vehicles certified by their original manufacturer for sale in the U.S., than vehicles for which there is no U.S. certified model, the Administrator may be more willing to accept data other than crash data to indicate that a vehicle is readily modifiable to achieve conformance. On the other hand, a vehicle would not appear to be

capable of being readily modified of major structural modifications are required for compliance. Although each petition for substantial similarity determinations will be decided on the merits of the arguments presented, it does not appear that a vehicle without the following conforming components can be readily modified to achieve conformance with the applicable standards: automatic restraints (Standard No. 208), seat belt anchorages (Standard No. 210), roof structure (Standard No. 216), windshield intrusion (Standard No. 219), and fuel system components (Standard No. 301).

NHTSA requested comments on its assumptions and tentative interpretations of "substantially similar" and "capable of being readily modified". In addition, NHTSA was concerned about the possibility that vehicles which appear "substantially similar" to the eye are much less so under the exterior sheetmetal. Therefore, NHTSA also requested comments on the similarity of structural components in such vehicles, such as similarity of dimensions behind the dashboard, roof rails, engine compartment, trunk space, and other structural areas for vehicles that are visually similar. Further, it requested comments on the degree of similarity in the dynamic crush and crush pulse signature of the imported vehicles in front and rear end impacts. At the present time, the agency is not fully sure about the degree of the under-skin similarity of vehicles, and these factors may have to be taken into account in petitions and determinations. The agency is particularly concerned with these issues as they relate to passenger cars manufactured by Mercedes-Benz, BMW, and Jaguar during the past 10 years. On the basis of past experience, NHTSA anticipates that well over 90 percent of vehicles to be imported under the new requirements will be products of these manufacturers.

There was little response to this request. The sole substantive commenter on these points was Mercedes-Benz of North America. Mercedes concurred that NHTSA had correctly identified the standards for which a substantial similarity/readily modifiable test cannot be met. It cautioned against making a determination on arguments alone, citing the fact that a Mercedes with a European airbag does not meet the requirements of Standard No. 208. Further, it viewed as totally inappropriate NHTSA's request for an analysis of parts by an original equipment manufacturer. It commented that this would amount to a checklist for modification, and an admission that all other factors comply. The agency does not agree with the conclusion reached by Mercedes. In the present absence of any experience with making any determinations under the 1988 Act, it does not intend to be restricted as to the sources it may consult in making these determinations. Resort to OEM data in this instance assists only in a determination that a vehicle

is readily capable of being modified to conform, and not an admission by the manufacturer that the vehicle does in fact conform.

593.6(b) Petitions on basis of modification capability.

Similar considerations apply if a vehicle is not substantially similar to any vehicles that have been or are being certified as complying with the U.S. Standards and imported into the United States. For such a vehicle, the basis of a petition would be that its safety features comply with, or are capable of being modified to comply with the safety standards to which it would have been subject at the time of its manufacture had it been originally intended for importation into the United States (paragraph 593.6(b)). Because there is no substantially similar model certified for sale in the United States, the statute does not specify that determinations be made with reference to model years. Cognizant of the fact that foreign vehicles may be produced for a number of years without major changes, the Administrator could make a determination applicable to vehicles produced within a model year, or manufactured during a stated inclusive period. Tentatively choosing a conservative approach, the agency proposed that "capability of modification" determinations also be petitioned for on a model year basis (paragraph 593.6(b)(1)). With vehicles whose features relevant to conformance capability have not changed with a model year, the agency wishes to state that a petition may request a determination for more than one model year if it is accompanied by substantiation.

With respect to the alternative basis of petitions, as with "substantially similar" vehicles, a determination "that the vehicle's safety features comply" could be made on the basis of a letter of confirmation from the vehicle's original manufacturer, or through visual inspection where appropriate. However, the 1988 Act assumes that full conformance with the safety standards may be more difficult to achieve for a non-similar vehicle than for a vehicle that is "substantially similar" to a certified one, as it states that NHTSA's determination shall be "based on destructive test data or such other evidence as the [Administrator] determines to be adequate". In this instance, it would appear that far more detailed information might be required to demonstrate capability of modification with those standards listed at the end of the prior discussion on substantially similar vehicles. Crash test data may be preferable to demonstrate that vehicles are capable of being modified to conform with those standards that incorporate barrier impact demonstration procedures (Standards Nos. 201, 204, 208, 212, 219 and 301). NHTSA contemplates that a registered importer, or a group of registered importers, planning to import a large number of a particular model might crash test one or more such vehicles in order to generate data to file with a petition. If a petitioner did not wish to conduct a crash test, then the question would arise as

to the “adequacy” of alternate means of demonstration that the vehicle is capable of being modified to achieve conformance. NHTSA therefore requested specific comments as to the adequacy of computer simulations, engineering analyses, and mathematical calculations as alternative bases of demonstrating compliance with the six safety standards listed above, as well as others, such as Standard No. 105 *Hydraulic Brake Systems*. It called attention to the fact that, in the final rule, with respect to these standards, it may be satisfied with nothing less than crash data, or a letter from the vehicle’s original manufacturer confirming compliance.

The agency also requested comments with respect to alternate types of evidence of compliance, and their suitability with respect to each of the other standards with complex laboratory demonstration procedures. For example, it asked whether computer simulations or mathematical calculations are acceptable indicators of the performance of components such as door latches and hinges (Standard No. 206) or seat anchorages (Standard No. 207) to withstand certain specified minimum forces. Neither method would appear to be acceptable as a demonstration of the lack of flammability of interior materials (Standard No. 302). For demonstrations of compliance with Standard No. 302, it might be necessary to submit an analysis of the fabric, or to test fabric actually from the vehicle, for example. The Administrator would determine the adequacy of the alternative types of evidence.

Mercedes-Benz concurred with NHTSA’s statements on decisions based on destructive test data. It advised that computer simulations should be used only in infrequent circumstances, and recommended that a showing be made by the petitioner that the intended simulation is considered reliable by the vehicle testing industry, such as recognition through a standard of the SAE or ASTM. Once that test has been met, Mercedes further recommended that the petitioner should show that the variables it intends to use in the simulation are derived from actual data on the specific vehicle that is the subject of the petition. Otherwise, a petitioner should not be allowed to make assumptions about data in the absence of backup documentation. If there is no such data, NHTSA should require full scale dynamic crash testing. As the submission by each petitioner will differ, NHTSA does not deem it advisable to adopt Mercedes’ comments as a regulation, but it will consider them in evaluations of relevant petitions. The reasons for NHTSA’s decisions, of course, will be published in the *Federal Register*.

George Ziolo commented that NHTSA should allow submission of evidence of compliance with foreign standards such as those of the ECE and ISO, many of which may use U.S.-based standards for their rules. In his view, “the effect” may be the same, even if the wording differs. Submission of foreign standards, he argues, is especially relevant if NHTSA intends to

allow “engineering calculations” in lieu of crash tests. In response, NHTSA wishes to make it clear that there are no restrictions on the type of data that a petitioner may submit. A petitioner may support its arguments by showing similarities between foreign and U.S. standards.

NHTSA noted in the proposal that the proposed petition requirements were drafted in somewhat general terms, so as to afford petitioners flexibility in presenting arguments and solutions of a performance, rather than of a design nature. This was in keeping with the performance orientation of the Federal motor vehicle safety standards. It further noted the possibility that, on the basis of comments, the final rule might be more detailed as to the types of data required to substantiate compliance with each of the safety standards. After considering these comments, NHTSA has adopted a non-detailed requirement in paragraph 593.6(b), which is virtually identical to the one proposed.

As a general comment, Mercedes-Benz objected to the use of the term “views and arguments” as a throwback to the old gray market program, and viewed it as an invitation for disputes. This term appears as “data, views and arguments” in paragraphs 593.6(a)(4) and (b)(2). “Views and arguments” is a necessary complement to “data”, which invariably will need interpretation and explanation. Because the agency is not requiring a demonstration of actual conformance, it has concluded that a petitioner’s “views and arguments” are necessary to support its petition for a determination of conformance capability.

The procedural requirements for both types of petitions require identification of “models” and “model years”. The agency did not find it necessary to propose a definition of “model”. It believes that a petitioner will identify with sufficient clarity the vehicles that it wishes to import, and that comparable U.S. models will have comparable designations. For example, Mercedes and BMW use the same series designations for both U.S. and European models, though secondary nomenclature may differ in minor respects, reflecting variations in the type of engines. No comments were received on this point.

Section 108(c)(3)(A)(i)(I) allows NHTSA to define “model year” by regulation. NHTSA has not heretofore done so with respect to compliance with the Federal motor vehicle safety standards, because the standards have never applied by model year, but are effective on a date certain. In recent years, NHTSA has, with respect to major standards, designated September 1 as the effective date of new requirements, although in earlier years, the effective date was frequently January 1. As an example, the center high-mounted stop lamp provisions of Standard No. 108 were effective for passenger cars manufactured on or after September 1, 1985. While this substantially correlates to the 1986-model year, there was no legal requirement that a 1986 model

manufactured before September 1, 1985, be equipped with this feature. Thus, with respect to certain “model years”, different standards may be in effect. NHTSA does not view this as an especially complicating factor. However, from time to time, it may have to make determinations with respect to different periods within a model year.

NHTSA proposed that “model year” be defined as either the model year designated by the manufacturer irrespective of the calendar year in which the vehicle was actually produced, or, in the absence of the manufacturer’s designation, the calendar year that begins on September 1 and ends on August 31 of the next calendar year. Mercedes-Benz commented that the model year should be that of the original manufacturer which in Europe is often determined by regulations of individual countries. It suggested that the definition state that the designation by the country of origin should control. Otherwise, it said, the agency should use the definition of the California Air Resources Board. After reviewing these comments, the agency has adopted its proposed definition, but added a designation by country of origin as an alternative to the manufacturer’s designation to be considered before consideration of the final alternative of designation by the September 1-August 31 calendar year.

593.7 Processing of petitions.

If a petition is filed on the basis that the vehicle is “substantially similar” to a certified one, and the Administrator cannot make such a determination, that does not mean that the petition is automatically denied. In that event, the Agency will inform the petitioner that it cannot make a determination on the basis petitioned for, but is willing to proceed to a consideration on the alternative basis, and make a determination on conformance, or capability of conformance, of the vehicle’s safety features, on the basis of such further supporting information as the petitioner may care to submit (paragraph 593.7(d)).

The procedural aspects of eligibility determinations are similar to other agency regulations regarding petitions and their dispositions (*see, e.g.*, 49 CFR 555.7 on temporary exemptions from safety standards). Notice of a petition (or agency initiative) will be published in the *Federal Register* and an opportunity afforded for comment (paragraph 593.7(b)). No public hearing, argument, or other formal proceeding will be held directly on the matter before a determination is made (paragraph 593.7(c)). After a decision, the agency will publish a second notice in the *Federal Register* constituting the determination whether the vehicle is eligible or ineligible for importation. If the vehicle is ineligible for importation, the notice will contain the earliest data on which the Administrator is statutorily able to consider the matter anew (paragraph 593.7(e)).

If the vehicle is eligible for importation, the notice contains the reasons for the grant (paragraph 593.7(f)).

Mercedes-Benz recommended that the burden on the petitioner should be to “clearly establish” conformance capability under either basis. That company said that this approach would increase the accuracy of NHTSA’s determinations, and reduce the potential for disagreement over the quality of data needed to establish compliance. This recommendation appears to be based upon the requirement of Section 108(c)(3)(C)(ii) which says that “The Secretary shall establish by regulation (I) the information required to be provided by the petitioner to clearly show that the vehicle is capable of being brought into compliance. . . .” NHTSA agrees with Mercedes that this is a burden to be met by the petitioner. In the final rule, the agency is adding the word “clearly” as a modifier of the word “demonstrate” relevant to the finding that the Administrator must make (paragraphs 596.7(e) and (f)).

Finally, in order to demonstrate that a vehicle is capable of conformance, the agency is willing to permit a registered importer to import a nonconforming vehicle for modification and demonstration purposes under the appropriate provision of Part 591, paragraph 591.5(j).

593.8 Determinations on the agency’s initiative.

Section 108(c)(3)(C)(i)(I) of the Vehicle Safety Act also provides that the agency may make determinations on its own initiative. NHTSA will proceed with such determinations in a manner similar to those made by petition. A notice requesting public comment will appear in the *Federal Register*, specifying the basis upon which the Administrator is considering a determination (paragraph 593.8(a)). No formal proceeding will be held (paragraph 593.8(b)). A second notice containing the decision will be published in the *Federal Register*. There is no administrative reconsideration available for a decision of ineligibility (paragraph 593.8(c)).

Europa International commented that NHTSA should not make determinations on its own initiative, as it would discourage Registered Importers from developing their own compliance method. This comment assumes that NHTSA will prescribe how each safety standard will be met if it makes determinations of eligibility on its own initiative. NHTSA has no intention of dictating conformance methodology. Its determinations, if any, are likely to be general conclusions based upon information available to it (which may include confidential information from the original manufacturer), or technical comments regarding individual components.

593.9 Effect of affirmative determinations; lists.

A notice of grant is sufficient authority for the

importation by persons other than the petitioner of any vehicle of the same model specified in the grant (paragraph 563.9(a)). The reason NHTSA proposed and has adopted this requirement is that its determinations cover “models” and “model years”. If a vehicle of a certain model and model year is “capable” of conformance, the determination will cover all vehicles of that model and model year, and not just a single specific motor vehicle. Europa International commented that this would eliminate the incentive a petitioner has to spend money developing conformance information. This argument confuses a petitioner’s demonstration of conformance capability with a Registered Importer’s demonstration of conformance achieved. There is no requirement that a petitioner submit its conformance methodology in support of a petition for a “capability” determination on either of the two bases. To the extent that a petitioner does, it may request confidentiality, and to the extent that it may be granted, the conformance information is protected.

The agency will publish annually in the *Federal Register* a list of vehicles for which determinations have been made (paragraph 593.9(b)). This will appear as an Appendix to Part 593, so that it may also appear in the *Code of Federal Regulations*. The agency intends to publish the first list before September 30, 1990, because the CFR publishes NHTSA regulations in revised form as of October 1 of each year.

593.10 Availability for public inspection.

The agency will make available for public inspection in the agency docket room all publicly available information relevant to a determination, regardless of whether that determination is made pursuant to a petition or on the Administrator’s initiative (paragraph 593.10(a)). However, as discussed previously, the agency realizes that a petition by a registered importer may contain arguments as to capability of modification that reflect the methodology by which that petitioner intends to achieve conformance, and which may qualify as a trade secret or confidential information for which confidential treatment may be requested (paragraph 593.10(b)). In that instance, the agency may conclude that considerations of confidentiality outweigh the interests of full disclosure.

In consideration of the foregoing, a new Part 593, *Determinations That a Vehicle not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards is Eligible for Importation*, is added to Title 49, Chapter V, to read as follows:

PART 593 Determinations That a Vehicle not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards is Eligible for Importation

Sec.

593.1 Scope.

593.2 Purpose.

593.3 Applicability.

593.4 Definitions.

593.5 Petitions for eligibility determinations.

593.6 Basis for petition.

593.7 Processing of petitions.

593.8 Determinations on the agency’s initiative.

593.9 Effect of affirmative determinations; lists.

593.10 Availability for public inspection.

Authority: P.L. 100-562, 15 U.S.C. 1401, 1407; delegation of authority at CFR 1.50.

593.1 Scope. This part establishes procedures under section 108(c) of the National Traffic and Motor Vehicle Safety Act, as amended (15 U.S.C. 1397(c)), for making determinations whether a vehicle that was not originally manufactured to conform with all applicable Federal motor vehicle safety standards, and is not otherwise eligible for importation under Part 591 of this chapter, may be imported into the United States because it can be modified to meet the Federal standards.

593.2 Purpose. The purpose of this part is to provide content and format requirements for any Registered Importer and manufacturer who wishes to petition the Administrator for a determination that a vehicle not originally manufactured to conform to all applicable Federal motor vehicle safety standards is eligible to be imported into the United States because it can be modified to meet the standards.

The purpose of this part is also to specify procedures under which the Administrator makes eligibility determinations pursuant to those petitions as well as eligibility determinations on the agency’s initiative.

593.3 Applicability. This part applies to a motor vehicle that was not originally manufactured and certified by its original manufacturer to conform with all applicable Federal motor vehicle safety standards and that is offered for importation into the United States.

593.4 Definitions All terms in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1391) are used as defined therein.

“Administrator” means the Administrator of the National Highway Traffic Safety Administration.

“Model year” means the year used by a manufacturer to designate a discrete vehicle model irrespective of the calendar year in which the vehicle was actually produced, or the model year as designated by the vehicle’s country of origin, or, if neither the manufacturer nor the country of origin has made such a

designation, the calendar year that begins on September 1 and ends on August 31 of the next calendar year.

“NHTSA” means the National Highway Traffic Safety Administration.

“Registered Importer” means any person who has been granted registered importer status by the Administrator pursuant to paragraph 592.5(b) of this chapter, and whose registration has not been revoked.

593.5 Petitions for eligibility determinations

(a) A manufacturer or Registered Importer may petition the Administrator for a determination that a vehicle that does not comply with all applicable Federal motor vehicle safety standards is eligible for importation, either

(1) On the basis that the vehicle

(A) is substantially similar to a vehicle which was originally manufactured for importation into and sale in the United States and which bore a certification affixed by its manufacturer pursuant to Part 567 of this chapter, and

(B) is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards; or

(2) On the basis that the vehicle has safety features that comply with or are capable of being modified to comply with all applicable Federal motor vehicle safety standards.

(b) Each petition filed under this part must—

(1) Be written in the English language;

(2) Be headed with the words “Petition for Import Eligibility Determination” and submitted in three copies to: Administrator, National Highway Traffic Safety Administration, Washington, D.C. 20590, Attn: Import Eligibility Determinations;

(3) State the full name and address of the petitioner.

(4) If the petitioner is a Registered Importer, include the Registered Importer Number assigned by NHTSA pursuant to Part 592 of this chapter.

(5) Set forth the basis for the petition and the information required by paragraph 593.6(a) or (b), as appropriate;

(6) Specify any part of the information and data submitted which petitioner requests be withheld from public disclosure in accordance with Part 512 of this chapter; and

(7) Submit a certified check payable to the Treasurer of the United States, for the amount of the vehicle eligibility petition fee established pursuant to Part 594 of this chapter.

(c) The knowing and willful submission of false, fictitious or fraudulent information may subject the petitioner to the criminal penalties of 18 U.S.C. 1001.

593.6 Basis for petition.

(a) If the basis for the petition is that the vehicle is substantially similar to a vehicle which was originally manufactured for importation into and sale in the United States, and which was certified by its man-

ufacturer pursuant to Part 567 of this chapter, and that it is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards, the petitioner shall provide the following information:

(1) Identification of the original manufacturer, model, and model year of the vehicle for which a determination is sought.

(2) Identification of the original manufacturer, model, and model year of the vehicle which the petitioner believes to be substantially similar to that for which a determination is sought.

(3) Substantiation that the manufacturer of the vehicle identified by the petitioner under paragraph (a)(2) above originally manufactured it for importation into and sale in the United States, and affixed a label to it certifying that it complied with all applicable Federal motor vehicle safety standards.

(4) Data, views and arguments demonstrating that the vehicle identified by the petitioner under paragraph (a)(1) above is substantially similar to the vehicle identified by the petitioner under paragraph (a)(2) above.

(5) With respect to each Federal motor vehicle safety standard that applied to the vehicle identified by the petitioner under paragraph (a)(2) above, data, views, and arguments demonstrating that the vehicle identified by the petitioner under paragraph (a)(1) above either was originally manufactured to conform to such standard, or is capable of being readily modified to conform to such standard.

(b) If the basis of the petition is that the vehicle’s safety features comply with or are capable of being modified to comply with all applicable Federal motor vehicle safety standards, the petitioner shall provide the following information:

(1) Identification of the model and model year of the vehicle for which a determination is sought.

(2) With respect to each Federal motor vehicle safety standard that would have applied to such vehicle had it been originally manufactured for importation into and sale in the United States, data, views, and arguments demonstrating that the vehicle has safety features that comply with or are capable of being modified to conform with such standard. The latter demonstration shall include a showing that after such modifications, the features will conform with such standard.

593.7 Processing of petitions.

(a) NHTSA will review each petition for sufficiency under paragraphs 593.5 and 593.6. If the petition does not contain all the information required by this part, NHTSA notifies the petitioner, pointing out the areas of insufficiency, and stating that the petition will not receive further consideration until the required information is provided. If the additional information is not provided within the time specified by NHTSA in its notification, NHTSA may dismiss the petition as incomplete, and so notify the petitioner. When the petition is complete, its processing continues.

(b) NHTSA publishes in the *Federal Register*, affording opportunity for comment, a notice of each petition containing the information required by this part.

(c) No public hearing, argument, or other formal proceeding is held on a petition filed under this part.

(d) If the Administrator is unable to determine that the vehicle in a petition submitted under paragraph 593.6(a) is one that is substantially similar, or (if it is substantially similar) is capable of being readily modified to meet the standards, (s)he notifies the petitioner, and offers the petitioner the opportunity to supplement the petition by providing the information required for a petition submitted under paragraph 593.6(b).

(e) If the Administrator determines that the petition does not clearly demonstrate that the vehicle model is eligible for importation, (s)he denies it and notifies the petitioner in writing. (S)he also publishes in the *Federal Register* a notice of denial and the reasons for it. A notice of denial also states that the Administrator will not consider a new petition covering the model that is the subject of the denial until at least 3 months from the date of the notice of denial. There is no administrative reconsideration available for petition denials.

(g) If the Administrator determines that the petition clearly demonstrates that the vehicle model is eligible for importation, (s)he grants it and notifies the petitioner. (S)he also publishes in the *Federal Register* a notice of grant and the reasons for it.

593.8 Determinations on the agency's initiative.

(a) The Administrator may make a determination of eligibility on his or her own initiative. The agency publishes in the *Federal Register* affording opportunity for comment, a notice containing the information available to the agency (other than confidential information) relevant to the basis upon which eligibility may be determined.

(b) No public hearing, argument, or other formal proceeding is held upon a notice published under this section.

(c) The Administrator publishes a second notice in the *Federal Register* in which (s)he announces his or her determination whether the vehicle is eligible or

ineligible for importation, and states the reasons for the determination. A notice of ineligibility also announces that no further determination for the same model of motor vehicle will be made for at least 3 months following the date of publication of the notice. There is no administrative reconsideration available for a decision of ineligibility.

593.9 Effect of affirmative determinations; lists.

(a) A notice of grant is sufficient authority for the importation by persons other than the petitioner of any vehicle of the same model specified in the grant.

(b) The Administrator publishes annually in the *Federal Register* a list of determinations made under Sec. 593.7, and Sec. 593.8.

593.10 Availability for public inspection.

(a) Except as specified in paragraph (b) of this section, information relevant to a determination under this part, including a petition and supporting data, and the grant or denial of the petition or the making of a determination on the Administrator's initiative, is available for public inspection in the Docket Section, Room 5109, National Highway Traffic Safety Administration, 400 Seventh St., S.W. Washington, D.C. 20590. Copies of available information may be obtained, as provide¹ in Part 7 of this chapter.

(b) Except for release of confidential information authorized under Part 512 of this chapter, information made available for inspection under paragraph (a) does not include information for which confidentiality has been requested and granted in accordance with Part 512, and 5 U.S.C. 552(b). To the extent that a petition contains material relating to the methodology by which the petitioner intends to achieve conformance with a specific standard, the petitioner may request confidential treatment of such material on the grounds that it contains a trade secret or confidential information in accordance with Part 512 of this chapter.
Issued on: September 26, 1989.

Jeffrey R. Miller
Acting Administrator
54 F.R. 40093
September 29, 1989

PART 593—DETERMINATIONS THAT A VEHICLE NOT ORIGINALLY MANUFACTURED TO CONFORM TO THE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IS ELIGIBLE FOR IMPORTATION

593.1 Scope.

This part establishes procedures under section 108(c) of the National Traffic and Motor Vehicle Safety Act, as amended (15 U.S.C. 1397(c)), for making determinations whether a vehicle that was not originally manufactured to conform with all applicable Federal motor vehicle safety standards, and is not otherwise eligible for importation under Part 591 of this chapter, may be imported into the United States because it can be modified to meet the Federal standards.

593.2 Purpose.

The purpose of this part is to provide content and format requirements for any Registered Importer and manufacturer who wishes to petition the Administrator for a determination that a vehicle not originally manufactured to conform to all applicable Federal motor vehicle safety standards is eligible to be imported into the United States because it can be modified to meet the standards.

The purpose of this part is also to specify procedures under which the Administrator makes eligibility determinations pursuant to those petitions as well as eligibility determinations on the agency's initiative.

593.3 Applicability.

This part applies to a motor vehicle that was not originally manufactured and certified by its original manufacturer to conform with all applicable Federal motor vehicle safety standards and that is offered for importation into the United States.

593.4 Definitions.

All terms in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1391) are used as defined therein.

“Administrator” means the Administrator of the National Highway Traffic Safety Administration.

“Model year” means the year used by a manufacturer to designate a discrete vehicle model irrespective of the calendar year in which the vehicle was actually produced, or the model year as designated by the vehicle's country of origin, or, if neither the manufacturer nor the country of origin has made such a designation, the calendar year that begins on September 1 and ends on August 31 of the next calendar year.

“NHTSA” means the National Highway Traffic Safety Administration.

“Registered Importer” means any person who has been granted registered importer status by the Administrator pursuant to paragraph 592.5(b) of this chapter, and whose registration has not been revoked.

593.5 Petitions for eligibility determinations

(a) A manufacturer or Registered Importer may petition the Administrator for a determination that a vehicle that does not comply with all applicable Federal motor vehicle safety standards is eligible for importation, either

(1) On the basis that the vehicle

(A) is substantially similar to a vehicle which was originally manufactured for importation into and sale in the United States and which bore a certification affixed by its manufacturer pursuant to Part 567 of this chapter, and

(B) is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards; or

(2) On the basis that the vehicle has safety features that comply with or are capable of being modified to comply with all applicable Federal motor vehicle safety standards.

(b) Each petition filed under this part must—

(1) Be written in the English language;

(2) Be headed with the words “Petition for Import Eligibility Determination” and submitted in three copies to: Administrator, National Highway Traffic Safety Administration, Washington, D.C. 20590, Attn: Import Eligibility Determinations;

(3) State the full name and address of the petitioner.

(4) If the petitioner is a Registered Importer, include the Registered Importer Number assigned by NHTSA pursuant to Part 592 of this chapter.

(5) Set forth the basis for the petition and the information required by paragraph 593.6(a) or (b), as appropriate;

(6) Specify any part of the information and data submitted which petitioner requests be withheld from public disclosure in accordance with Part 512 of this chapter; and

(7) Submit a certified check payable to the Treasurer of the United States, for the amount of the vehicle eligibility petition fee established pursuant to Part 594 of this chapter.

(c) The knowing and willful submission of false, fictitious or fraudulent information may subject the petitioner to the criminal penalties of 18 U.S.C. 1001.

593.6 Basis for petition.

(a) If the basis for the petition is that the vehicle is substantially similar to a vehicle which was originally manufactured for importation into and sale in the United States, and which was certified by its manufacturer pursuant to Part 567 of this chapter, and that it is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards, the petitioner shall provide the following information:

(1) Identification of the original manufacturer, model, and model year of the vehicle for which a determination is sought.

(2) Identification of the original manufacturer, model, and model year of the vehicle which the petitioner believes to be substantially similar to that for which a determination is sought.

(3) Substantiation that the manufacturer of the vehicle identified by the petitioner under paragraph (a)(2) above originally manufactured it for importation into and sale in the United States, and affixed a label to it certifying that it complied with all applicable Federal motor vehicle safety standards.

(4) Data, views and arguments demonstrating that the vehicle identified by the petitioner under paragraph (a)(1) above is substantially similar to the vehicle identified by the petitioner under paragraph (a)(2) above.

(5) With respect to each Federal motor vehicle safety standard that applied to the vehicle identified by the petitioner under paragraph (a)(2) above, data, views, and arguments demonstrating that the vehicle identified by the petitioner under paragraph (a)(1) above either was originally manufactured to conform to such standard, or is capable of being readily modified to conform to such standard.

(b) If the basis of the petition is that the vehicle's safety features comply with or are capable of being modified to comply with all applicable Federal motor vehicle safety standards, the petitioner shall provide the following information:

(1) Identification of the model and model year of the vehicle for which a determination is sought.

(2) With respect to each Federal motor vehicle safety standard that would have applied to such vehicle had it been originally manufactured for importation into and sale in the United States, data, views, and arguments demonstrating that the vehicle has safety features that comply with or are capable of being modified to conform with such standard. The latter demonstration shall include a showing that after such modifications, the features will conform with such standard.

593.7 Processing of petitions.

(a) NHTSA will review each petition for sufficiency under paragraphs 593.5 and 593.6. If the petition does not contain all the information required by this part, NHTSA notifies the petitioner, pointing out the areas of insufficiency, and stating that the petition will not receive further consideration until the required information is provided. If the additional information is not provided within the time specified by NHTSA in its notification, NHTSA may dismiss the petition as incomplete, and so notify the petitioner. When the petition is complete, its processing continues.

(b) NHTSA publishes in the *Federal Register*, affording opportunity for comment, a notice of each petition containing the information required by this part.

(c) No public hearing argument, or other formal proceeding is held on a petition filed under this part.

(d) If the Administrator is unable to determine that the vehicle in a petition submitted under paragraph 593.6(a) is one that is substantially similar, or (if it is substantially similar) is capable of being readily modified to meet the standards, (s)he notifies the petitioner, and offers the petitioner the opportunity to supplement the petition by providing the information required for a petition submitted under paragraph 593.6(b).

(e) If the Administrator determines that the petition does not clearly demonstrate that the vehicle model is eligible for importation, (s)he denies it and notifies the petitioner in writing, (S)he also publishes in the *Federal Register* a notice of denial and the reasons for it. A notice of denial also states that the Administrator will not consider a new petition covering the model that is the subject of the denial until at least 3 months from the date of the notice of denial. There is no administrative reconsideration available for petition denials.

(g) If the Administrator determines that the petition clearly demonstrates that the vehicle model is eligible for importation, (s)he grants it and notifies the petitioner. (S)he also publishes in the *Federal Register* a notice of grant and the reasons for it.

593.8 Determinations on the agency's initiative.

(a) The Administrator may make a determination of eligibility on his or her own initiative. The agency publishes in the *Federal Register*, affording opportunity for comment, a notice containing the information available to the agency (other than confidential information) relevant to the basis upon which eligibility may be determined.

(b) No public hearing, argument, or other formal proceeding is held upon a notice published under this section.

(c) The Administrator publishes a second notice in the *Federal Register* in which (s)he announces his or her determination whether the vehicle is eligible or ineligible for importation, and states the reasons for the determination. A notice of ineligibility also announces that no further determination for the same model of motor vehicle will be made for at least

3 months following the date of publication of the notice. There is no administrative reconsideration available for a decision of ineligibility.

593.9 Effect of affirmative determinations; lists.

(a) A notice of grant is sufficient authority for the importation by persons other than the petitioner of any vehicle of the same model specified in the grant.

(b) The Administrator publishes annually in the *Federal Register* a list of determinations made under Sec. 593.7, and Sec. 593.8.

593.10 Availability for public inspection.

(a) Except as specified in paragraph (b) of this section, information relevant to a determination under this part, including a petition and supporting data, and the grant or denial of the petition or the making of a determination on the Administrator's initiative, is available for public inspection in the Docket Section, Room 5109, National Highway Traffic Safety Administration, 400 Seventh St., S.W. Washington, D C 20590. Copies of available information may be obtained, as provided in Part 7 of this chapter.

(b) Except for release of confidential information authorized under Part 512 of this chapter, information made available for inspection under paragraph (a) does not include information for which confidentiality has been requested and granted in accordance with Part 512, and 5 U.S.C. 552(b). To the extent that a petition contains material relating to the methodology by which the petitioner intends to achieve conformance with a specific standard, the petitioner may request confidential treatment of such material on the grounds that it contains a trade secret or confidential information in accordance with Part-512 of this chapter.

Issued on Sept. 26, 1989.

**54 F.R. 40093
September 29, 1989**

PREAMBLE TO PART 594

Schedule of Fees Authorized by the National Traffic and Motor Vehicle Safety Act (Docket No. 89-8; Notice 2) RIN: 2127-AC98

ACTION: Final Rule

SUMMARY: The National Traffic and Motor Vehicle Safety Act, as revised by the Imported Vehicle Safety Compliance Act of 1988 (P.L. 100-562), provides that motor vehicles not originally manufactured to conform to Federal motor vehicle safety standards may nevertheless be imported into the United States under certain circumstances. In general, such a vehicle may be imported under bond for certification of its conformance, or exportation in the event it is not conformed, by those who have registered with NHTSA as importers, provided that NHTSA has determined that the nonconforming vehicle is capable of being conformed to meet the safety standards.

The Safety Act authorizes NHTSA to establish fees to cover its cost of administering the registration program, and of making conformance capability determinations, and to reimburse the U.S. Customs Service its costs in processing the importation bond. The purpose of this rule is to adopt the fee schedules that will implement the statutory authorization. The agency has concluded that the initial annual fee for the registration program is \$255. The fee to accompany a petition for a determination that a vehicle is eligible for importation is either \$1560 or \$2150, depending upon the basis of the petition. These fees are identical to those proposed. The fee required to reimburse the U.S. Customs Service for bond processing costs is \$4.35 per bond. This is less than the proposed fee of \$125.

EFFECTIVE DATE: September 30, 1989.

SUPPLEMENTARY INFORMATION: On December 5, 1988, the National Highway Traffic Safety Administration published a notice of the amendment of section 108 of the National Traffic and Motor Vehicle Safety Act by P.L. 100-562, the Imported Vehicle Safety Compliance Act of 1988 (53 FR 49003). The effective date of the amendments is January 31, 1990. On and after that date, with the exceptions specified in the notice, motor vehicles that have not been originally manufactured to conform to the Federal motor vehicle safety standards may be imported only by persons who have registered with NHTSA as undertaking to bring the vehicle into conformance, or by persons who have contracts with registered importers to perform con-

formance work. In addition, such a vehicle may not be imported unless NHTSA has determined that it is capable of being conformed to the standards. The agency may make such a determination in a response to a petition by a registered importer, or on its own initiative. Each vehicle permitted entry must be accompanied by a bond given to secure performance of the conformance work, or, to ensure its exportation or abandonment to the United States in the event that the vehicle is not brought into full conformance.

Rules have been issued to implement the other provisions of the Vehicle Safety Act described above, and are being published simultaneously with this notice. They are 49 CFR Part 591, *Importation of Vehicles and Equipment Subject to Federal Motor Vehicle Safety Standards*; Part 592, *Registered Importers of Vehicles not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards*; and Part 593, *Determinations That a Vehicle not Originally Manufactured to Conform to the Federal Motor Vehicle Safety Standards is Eligible for Importation*. A proposed schedule of fees (Part 594) was published on April 25, 1989 (54 FR 17792).

The new provisions also specifically authorize NHTSA to impose fees to cover certain administrative costs incurred in implementation of the new importation procedures. There are two or more types of fees to cover three types of costs for which fees may be charged: an annual fee to cover the costs of administration of the importer registration program, an annual fee or fees to cover the costs of processing the bond furnished to the Customs Service, and an annual fee or fees to cover the costs of making import eligibility determinations.

The purpose of this rule is to adopt a fee schedule that appears appropriate for recovery of each cost, and to explain the rationale behind each of these fees. In identifying those agency activities that may form the cost basis of a fee authorized by the new import provisions, the agency has considered the experience of other agencies in establishing users fees under the Independent Offices Authorization Act (31 U.S.C. 9701), and the Consolidated Omnibus Budget Reconciliation Act (P.L. 99-272). Thus, as proposed, and as repeated in this notice, the agency will: identify each service it provides, explain why it is entitled to recover the cost of providing that service, identify each type of

expenditure incurred in providing that service, explain the criteria used to include or exclude a particular expenditure, and calculate the amount of each such expenditure.

There were three substantive responses to the proposal, submitted by Auburn Motors, Inc., The Dealer Action Association, and Mercedes-Benz of North America.

1. Requirements of the Fee Regulation.

594.6 Annual fee for administration of the importer registration program. Section 108(c)(3)(A)(iii) of the Vehicle Safety Act provides that registered importers must pay "such annual fee as the Secretary establishes to cover the cost of administering the registration program. . . ."

The first issue addressed by the agency in its proposal was whether the term "registration program" is inclusive of all activities under section 108(c) (except for the other activities for which a fee may be imposed), or whether it is restricted to activities relating directly to the registration process, such as reviewing registration applications and acting upon them. The agency interpreted "registration program" conservatively, and concluded that it refers only to activities connected with the development and maintenance of the registration process, including monitoring, and enforcement activities resulting in suspension or revocation of a registration. Although it could be argued that NHTSA's verification of the certification submitted by a registered importer is relevant to the maintenance by that registered importer of its status, this agency believes that Congress did not intend to include such an activity in the registration program. Specifically, section 109(c)(3)(B)(i) prohibits the application of fees collected under the Vehicle Safety Act to NHTSA's inspection of vehicles for which certifications have been filed. Thus, NHTSA proposed to exclude, from the fee structure of the registration program, activities connected with processing of certificates and compliance documentation of motor vehicles.

Mercedes-Benz and The Dealer Action Association disagreed with NHTSA's conclusions, and argued that all costs except those specifically exempted in the statute ought to be included. Each believes that the costs associated with processing certificates of conformity and monitoring compliance should also be included. They argued that Congress intended that the costs be borne in full by those who would benefit from the new legislation, and that the presence of specific exclusions in the legislation argues for an inclusive approach. Specifically, the commenters believe that two separate provisions must be read together to understand the scope of the fee structure Congress meant to establish. Section 108(c)(3)(A)(iii) requires collection from each Registered Importer of its pro rata share of administering the registration program. Section 108(c)(3)(B) then defines the scope of agency

activities covered. It states in relevant part "All fees collected shall be available until expended. . . solely for use. . . in the administration of all of the requirements of this subsection. . . ", other than NHTSA's periodic inspection of motor vehicles for which certificates have been furnished, and regulations governing the Registered Importer's financial ability to notify and remedy.

The commenters further argue that the legislative history also evidences Congressional intent to establish comprehensive fees. Remarks by Senator Inouye are cited in support:

"This new program will be financed through fees paid by registered importers upon registration, and annually thereafter, as calculated by the Secretary to cover the additional costs of administering the program. We felt it was appropriate in this limited instance to require the payment of such fees because this new program is being established solely for the benefit of registered importers and will continue to permit them to stay in business".

Cong. Rec. S14734, daily ed. October 5, 1988.

The commenters believe that NHTSA should recalculate the costs it will incur and make appropriate adjustments in the fees it will require Registered Importers to pay annually.

The agency has carefully considered these comments. NHTSA notes the comment by Senator Rudman (S14375) that the fees cover the costs of administering only "certain provisions", and that "the user fees would not apply to the testing of these vehicles. . . . This is a responsibility normally assumed by the Department." NHTSA believes that it was not the intent of Congress to assess fees for activities that represent "a responsibility normally assumed by the Department", *i.e.*, a responsibility that was part of the agency's enforcement program before enactment of the 1988 Act. The registration requirements (section 108(c)(3)(D)) constitute an entirely new program, but the requirements for submission and evaluation of certification and documentation (section 108(c)(3)(E)) have a direct counterpart in the agency's present enforcement program under which a statement of conformance supplemented by documentary evidence must be provided before action is taken upon the bond. Therefore the agency has not broadened its interpretation of the elements of the registration program in section 108(c)(3)(D) to cover activities in section 108(c)(3)(E).

The second issue addressed by NHTSA, and relevant to the other authorized fees as well, was whether the agency can recover both direct and indirect costs associated with its activities. It noted that there is no modifier of the word "costs", and concluded that both direct and indirect costs may be recovered. Such costs include all costs of administering the program, in-

cluding salaries and other personnel costs (retirement, insurance and leave), travel, postage, maintenance and depreciation of equipment, supplies, and a proportionate share of agency management and supervisory costs as well as accrued liabilities, which include severance pay, unemployment compensation, workers compensation, and unused leave costs. The commenters did not address this issue.

The initial annual fee attributable to the registration program contains three components. The first component is one that would cover the cost of processing an application by a person seeking to become a registered importer. It would not be refundable in the event of a denial. The second component represents the costs attributable to such inspection of an applicant's facilities as the agency may deem necessary to conduct prior to a decision on an application. The third component is intended to cover the remaining costs. The first and third component of the initial annual fee will be paid at the time that an applicant seeks to become a registered importer. The second component will be paid only if an inspection is actually conducted, and would be payable by the end of the tenth calendar day after notification by the agency. If the application is denied, the amount of the fee representing the third component will be refunded to the applicant.

Annual fees after the initial annual fee will also have three components. Instead of a component attributable to processing an application, the first component of a regular annual fee will cover the costs of processing the registered importer's annual statement (or mid-year changes) attesting that there is no material change in its condition and that it is maintaining its financial and technical ability to meet its statutory obligations. The second component will cover the cost, if any, of such inspections the agency might have conducted with respect to the registered importer during the year. The third component is again intended to cover remaining costs.

With respect to the first component of the initial annual fee, the relatively simple, discrete activities involved in processing and acting upon registration applications permit a uniform first component sum to be developed, payable by all who seek to become registered importers. Similarly, the agency tasks involved in processing and reviewing annual statements appear to permit a uniform first component sum to be developed. The direct costs that the agency will consider in this regard are the amount of time spent in reviewing applications or annual statements for form and content, analysis, and drafting of documents relating to the analysis and disposition of the application or annual statement, including direct supervisory time. Other direct costs associated, such as postage, computer time, and meetings to discuss the merits of an application or annual statement, will be

included in the fee structure. However, while the application is pending, NHTSA may wish to inspect the premises of the applicant. The costs of this inspection would form the basis of the second component of the fee that must be paid before a determination is made on the merits of the application. Inspections conducted after registration (the second component of the regular annual fee) would be reflected in the next annual fee payable by the registered importer concerned.

The agency will include indirect costs as well. For example, if one-third of a staffer's time at a word processing terminal is spent in drafting documents relative to an application determination, then a third of the cost of maintaining the space and the terminal will be factored into a registration fee. Indirect general and administrative costs can be included in the fee structure as a pro rata share of the costs attributable to running the program.

Once a registration has been granted, section 108(d)(2) imposes an obligation on a registered importer to maintain evidence satisfactory to NHTSA that it continues to be financially able to meet its statutory responsibilities "relating to discovery, notification, and remedy of motor vehicle defects." Further, section 108(c)(3)(D)(ii) directs the agency to set requirements for registered importers, including at a minimum (1) requirements for record-keeping; and (2) requirements for records and facilities inspection for registered importers. Activities of the agency associated with satisfying it of financial ability and meeting other specified responsibilities may be included in the cost basis of the registration program annual fee. The initial annual fee adopted by this notice is based upon NHTSA's estimates of costs for the first fiscal year that the registration program is in effect. If the amount of the annual fee for a succeeding year is adjusted, the adjustment will take into account NHTSA's actual experience in the year preceding.

Under paragraph 592.6(a)(7) of the regulation on Registered Importers, the agency may inspect a facility or the records which the Registered Importer must keep to fulfill its program responsibilities. There are two purposes for which such inspections may be conducted. The first is to verify that the regulatory criteria for obtaining or maintaining the status of registered importer are met. These inspections are directly related to administration of the registration program. The agency will include direct and indirect costs associated with these inspection activities in the fee structure for the program. The agency will include direct and indirect costs associated with these inspection activities in the fee structure for the program. The second purpose for which an inspection may be conducted is to verify that a certification filed by a registered importer is supported by the conformance work performed. This activity is specifically excluded

as a cost towards which fees may not be applied. Consequently, if inspecting a facility for compliance with registration requirements also involves vehicle inspection, agency staff will segregate costs to exclude those attributable to the inspection of vehicles. Only those costs directly attributable to the registration program will be included in the second component of the next regular annual fee.

As with the costs of processing an initial application or annual statement, all direct and indirect costs associated with the suspension and reinstatement of Registered Importer status are recoverable by the agency. These include costs associated with notifying a registrant that the agency is considering suspension, plus the costs of allowing it to present its opposition to suspension under paragraph 592.7(b) of the Registered Importer regulation, and costs associated with processing a registrant's request that NHTSA reconsider a suspension under paragraph 592.7(e). The final associated cost is that of notifying the registrant of the determination regarding its suspension.

Similarly, the costs associated with revoking a registration are recoverable. These include notifying a Registered Importer in writing that NHTSA intends to revoke registration under paragraph 592.7(b), or that the agency has revoked a registration under paragraph 592.7(c) because the registrant knowingly filed a false or misleading certification. Further recoverable costs are those associated with reviewing, analyzing and responding to the registrant's written opposition to a preliminary decision to revoke its registration.

The agency will include whatever activities are associated with making a determination under paragraph 592.7(d) that the basis for a suspension no longer exists. The nature of the reinstatement process will vary depending on the reason for the suspension. For example, the process will be comparatively simple if the suspension was for failure to pay a fee.

594.7 Fee for vehicle importation eligibility petitions.

Section 108(c)(3)(A)(iii)(II) also requires Registered Importers to pay "such other annual fee or fees as the Secretary reasonably establishes to cover the cost of . . . making the determinations under this section." Pursuant to Part 593, these determinations are whether the vehicle sought to be imported is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, and certified as meeting the Federal standards, and whether it is capable of being readily modified to meet those standards, or, alternatively, where there is no substantially similar U.S. motor vehicle, whether the safety features of the vehicles comply with or are capable of being modified to comply with the U.S. standards. These determinations are made pursuant to petitions submitted by Registered Importers or manufacturers, or pursuant to determinations made upon the Administrator's initiative.

In developing this regulation, the agency considered the type and frequency of fees that would best implement the purpose of the 1988 Act. With respect to making eligibility determinations, it considered an "annual fee", in which total costs attributable to eligibility determinations would be divided equally among all Registered Importers. Such a fee would be payable at the time of the next regular annual fee for administration of the registration program. This type of fee appeared equitable in the sense that more than one Registered Importer may benefit from an eligibility determination, and that the costs would not be borne by the petitioner alone. However, NHTSA proposed and adopted a requirement that a fee be charged for individual petitions for determinations of eligibility. The benefit of this approach is that it permits "pay-as-you-go", under which costs are more quickly recovered. This fee would be payable by a petitioner for a determination, or by the importer who first benefits from a determination made on the agency's initiative (see further discussion below).

The agency requested comments on each approach, but it proposed the second approach. Under this, a petition by a manufacturer or Registered Importer for a determination would be accompanied by the fee specified in paragraph 594.7. The payment of this fee by the petitioner is premised upon the likelihood that the petitioner would be the immediate beneficiary of any favorable determination, and therefore ought to pay the costs authorized by statute for consideration of its petition. The immediate beneficiary of a favorable determination made upon the Administrator's initiative would be the first Registered importer, or other person, who imports a vehicle that is covered by the determination. Therefore, NHTSA proposed to establish a fee that would be payable by the Registered Importer who furnishes a certificate of conformity covering the first vehicle imported under a declaration filed after notice of the Administrator's initiative determination has appeared in the *Federal Register*. The notice would include a discussion of the fee to be paid and the basis for it. Subsequently, upon receipt of the first declaration covering the vehicle, NHTSA would notify the Registered Importer concerned that the stated fee is due at the time the certification of conformity covering the vehicle is received. However, NHTSA is aware that such costs would remain unrecoverable until such time as (and unless) a declaration is filed on such a vehicle.

The three commenters on the proposal recommended that it would be more equitable to divide the petition fee among all Registered Importers. NHTSA gave close attention to these comments and examined various ways that this could be accomplished. Because of the requirement of section 108(c)(3)(B) that the fee applicable in any fiscal year be established before the beginning of such year, NHTSA concluded that it could not implement the suggestion it had discussed in

the proposal, to establish a pro rata fee applicable to all Registered Importers at the end of a fiscal year to cover all petition determinations of that year. Collection of such a sum appeared difficult also; the agency did not appear to have leverage over manufacturers who had filed petitions without a fee, and as for Registered Importers, to defer renewal of registration until the annual petition fee was paid seemed irrelevant to maintenance of the qualifications of Registered Importers.

The agency concluded that payment by the petitioner at the time of the petition represented the most effective way to recover the costs of eligibility determinations, but within that framework it explored ways of equalizing the burden by an allocation at the end of the fiscal year. As an alternative to dividing total petition fees by the number of Registered Importers, the fee for a petition for a specific make/model could be divided by the number of only those Registered Importers who had furnished certificates of conformity for that make/model during the year. A variation of this alternative would be a formula with weights given Registered Importers according to the specific number of that specific make/model each had imported. At the end of the fiscal year, there would be a reconciliation of sums, under which certain Registered Importers could be given cash refunds or credits toward future petitions, or, if the reconciliation showed otherwise, an assessment imposed on a Registered Importer. No approach appeared to be without problems, and each, other than payment at the time of the petition, would add costs to the general fee structure. Nevertheless, NHTSA remains interested in the concept of equalizing the burden, and on the basis of its experience in the first year of the petition program, will consider additional ways that this might be accomplished. It would be interested in having constructive comments during this period.

As NHTSA observed in the notice, the activities that may form the cost basis for petitions appear to include logging-in, notifying the petitioner of receipt, and evaluating the petition. If the agency grants a written request by the petitioner to appear to discuss a petition under paragraph 593.7(c), it will recover the cost of processing the written request and discussing the petition. Although the 1988 Act does not require an actual demonstration of conformance, only that a vehicle is capable of conformance, a petitioner may wish to substantiate its arguments with presentation of a modified vehicle. In that event, it may be necessary for NHTSA to inspect the modified vehicle as part of its role in determining whether the vehicle is eligible for importation. The cost of that inspection would be properly recoverable. The new import provisions require publication of a notice in the *Federal Register*; thus the agency will also recover costs associated with preparing and processing *Federal Register* documents

generated in connection with the petition, processing and analyzing comments submitted in connection with a *Federal Register* document; and notifying a petitioner of the agency's decision.

When NHTSA makes a determination on its own initiative, it will also publish a notice in the *Federal Register* and receive and evaluate comments on it.

The new import provisions do not require the agency to publish a second *Federal Register* notice immediately after a decision is made. Section 108(c)(3)(C)(iv), however, does require NHTSA to publish annually in the *Federal Register* a list of all vehicles determined to be eligible for import under the Act. Compiling and publishing this list is connected with making and announcing eligibility determinations, and the costs will be included in the fee structure.

594.8 Fee payable for Administrator's determination.

Costs to be recovered through payment of a fee also cover those attributable to determinations of import eligibility made on NHTSA's initiative. The principal issue here is how such costs are to be recovered in the absence of a petitioner. The method proposed was that it be paid by the first Registered Importer who furnishes a certificate of conformity covering such vehicle after NHTSA's determination on its own initiative. There were no specific comments on this method, though it was clearly implied by the three commenters that such costs should be shared equally by all Registered Importers. For the reasons set forth above in the discussion on allocation of fees among Registered Importers, it is impracticable to do so, and NHTSA has adopted the method proposed.

594.9 Fee to recover the costs of processing the bond.

Section 108 (c)(3)(A)(iii)(II) also requires a registered importer to pay "such annual fee or fees as the Secretary reasonably establishes to cover the cost of processing the bond furnished to the Secretary of the Treasury" upon the importation of a nonconforming vehicle to ensure that the vehicle will be brought into compliance within a reasonable time, or if the vehicle is not brought into compliance within such time, that it is exported without cost to the United States, or abandoned to the United States.

The statute contemplates that NHTSA make a reasonable determination of the cost to the United States Custom Service of processing the bond. The agency has met representatives of the Customs Service to obtain such information as would allow it to include the cost basis of processing the bond in the fee structure. The analysis that Customs has provided NHTSA indicates that it has followed the same guidelines as the agency does to determine whether each activity associated with processing the bond gives rise to a recoverable cost. The 1988 Act requires the bond to be furnished the Secretary of the Treasury acting on behalf of NHTSA. However, NHTSA has decided, and Customs concurs, that the bond in question is not the

general importation bond which covers duties and other obligations relevant to merchandise. It is a bond given to secure performance of obligations under the Vehicle Safety Act, and will therefore be a bond of the Department of Transportation and not of the Treasury. The two Federal agencies have determined that this bond will accompany the declaration at the time of entry, and be submitted with it to NHTSA. Thus the role of Customs in "processing" the bond will be limited to two activities. At the time of importation, it will ensure that the bond is attached to the entry form (or reject the entry for lack of the bond). After bond verification, it will forward the bond and entry form to NHTSA. A third activity will be required in the event that a vehicle must be exported for failing to meet NHTSA's requirements: the supervision of export.

The first two activities will form the basis for the processing cost payable by the registered importer. The cost of the third activity will be part of the bond, so that if the vehicle must be redelivered for export, a sum covering the third activity would be payable to NHTSA on behalf of Customs. Although NHTSA will advance Customs its costs in accordance with statutory requirements, it will recover these costs on an *ad hoc* basis, requiring a registered importer to submit a bond processing fee at the time it submits conformance verification on each vehicle.

2. Calculations of the Agency's Costs in Setting Fees

To the extent possible, the agency's costs in setting fees are based upon an accounting of each discrete activity involved in the process. Thus, the fees imposed by Part 594 include the agency's best direct and indirect cost estimates of the man-hours involved in each activity, on both the staff and supervisory levels, the costs of computer and word processor usage, postage costs, costs attributable to travel, salary and benefits, and maintenance of work space, to name the ones set forth in the proposed regulation.

Specifically, each fee is calculated on the basis of the direct and indirect costs associated with the activity for which the fee is paid. The direct costs include the average cost per professional staff-hour, computer and word processor time, stationery and postage, and transportation.

The average cost per professional staff-hour is calculated based upon the full costs for time spent (to the nearest quarter-hour) using the following applicable professional staff rates:

- (A) Office of Vehicle Safety Compliance —
 - Clerical Staff — \$13 per hour
 - Computer contract staff — \$25 per hour.
 - Review staff — \$26 per hour.
 - Supervisors — \$41 per hour.

- (B) Office of Chief Counsel — \$41 per hour.

The average cost per computer-hour is calculated at the rate of \$100 per hour.

The average cost for postage is calculated to be \$3.00.

The indirect costs include a pro rata allocation of the average salary and benefits of persons employed in processing the applications and recommending decisions on them, and a pro rata allocation of the costs attributable to maintaining the office space, and the computer or word processor. The staff rates above include benefits; the costs associated with office space, equipment maintenance, communications and other overhead amount to an additional \$6.71 per hour.

The cost for determining the salary and benefits of persons employed is calculated based upon the time spent multiplied by the employee's hourly wage.

The cost of maintaining the computer or word processor is calculated based upon maintenance, time sharing, and staff operations.

The cost of maintaining the office space is calculated based upon standard government regulations based upon grade levels.

The cost of travel is based upon an estimated round trip air fare of \$250, and a 3-day per diem of \$100 a day, for a total trip cost of \$550.

A. Registration Program Fee

The Registration Program Annual Fee has two and in some instances three components: a portion attributable to the registration process, a portion attributable to any inspection of an applicant that the agency deems needed to verify information submitted in an application for registration, and a portion attributable to other activities occurring in the registration program. Exclusive of the inspection portion, the agency has decided that the initial Annual Registration Program fee shall be \$255.

The initial component of the Registration Program Fee is the portion of the fee attributable to processing and acting upon registration applications. The agency estimates this portion of the fee as \$85.99.

In calculating the direct costs of processing registration applications, NHTSA estimates that one staff member and one supervisor will spend a total of one man-hour in processing, reviewing, and acting upon applications, that a quarter hour of computer, and computer-operator time will be required to verify that the applicant has not had a registration revoked, that a half hour of clerical time will be required, and that a postal charge will be incurred. These costs are estimated at \$74.25.

In calculating the indirect costs of processing registration applications, NHTSA has estimated that these will average \$6.71 per hour spent. Processing will require a total of 1.75 hours per application, thus NHTSA estimates that indirect costs will total \$11.74. Thus the total direct and indirect costs of this component are \$85.99.

With respect to other costs attributable to maintenance of the registration program, these consist

principally of reviewing a registrant's annual statement verifying the continuing validity of information already submitted, and processing annual fees. These costs also include costs attributable to revocation or suspension of a registration.

In calculating the direct costs of administering the registration program other than costs connected with the initial application, NHTSA estimates that one staff member and one supervisor will spend a total of 1.5 man-hours in administration activities, that one half-hour of computer time, and computer operator time will be required, that 1.5 hours of clerical and record-keeping time will be needed, and a postal charge will be incurred. The total direct charges for administering the registration program are estimated at \$131.50. The total overhead costs of the 3.5 hours involved are \$23.49, or a total of \$154.99. These costs, of course, are exclusive of costs associated with revocation or suspension.

At this point, it appears fairest that a suspended registrant bear the costs associated with suspension and reinstatement, to be included in its next annual fee. However, it will not be feasible to recover costs from an importer whose registration has been revoked. Those costs appear best borne by each registered importer paying a pro rata share in its annual fee. Obviously, before the effective date of the 1988 Act, NHTSA has no knowledge of how many registered importers there will be or how many suspensions or revocations may occur in the first year of the program. However, for purposes of determining this portion of the registration fee, NHTSA estimates that there will be 20 registered importers during the fiscal year beginning October 1, 1989, and ending September 30, 1990, and that there will be one revocation. Under Part 592, the procedures that the agency will follow in determining whether a registration should be revoked or suspended are identical. This means that the direct and indirect costs should also be identical, up to the point of an agency determination. Because a suspended registration may be reinstated, either upon expiration of the term stated in the agency's letter of suspension, or upon cure of the cause giving rise to the suspension, there will be a slight additional cost commensurate with the clerical aspects of ending the suspension.

NHTSA contemplates that its Enforcement Office will recommend suspensions or revocations to the Office of Chief Counsel, and that 1 hour of staff time, and .25 hour computer operator time will be involved in recommendations. In addition, .25 hour of computer time will be used. The Office of Chief Counsel will require 1.75 hours to review the recommendation and draft a letter to the registrant, and an additional 1.75 hours to review the registrant's reply and to draft a letter of suspension, or revocation, or declining to take further action. Postal charges will total \$6.00. The total direct costs associated with this procedure are

\$206.75, and the overhead costs for 4.75 hours of agency time, \$34.87. The sum of \$238.62 divided by the 20 estimated Registered Importers gives a figure of \$11.93 to be added to the portion of the annual fee representing maintenance of the registration program (For reinstatement, to be borne by the registrant, NHTSA estimates that the total direct and indirect costs will be \$40.36, representing .25 hour of clerical time, .25 hour of computer time, and .25 hour of computer operator time).

Thus, the total portion attributable to maintenance of the registration program, as estimated by NHTSA, is approximately \$166.92. When added to the \$85.99 representing the registration application component, the cost per applicant equals \$252.91. Therefore, NHTSA has determined that the initial annual registration fee, for the period October 1, 1989 through September 30, 1990, is \$255. In the event that an application is denied or withdrawn, NHTSA will refund all but \$86 of this amount, or \$169.

B. Fee for Vehicle Eligibility Petitions.

In calculating the direct costs of processing and acting upon a petition for a determination of eligibility, NHTSA estimates that the costs involved for determinations involving substantially similar vehicles will require substantially less agency time than those for non-similar vehicles. For purposes of this determination, NHTSA has chosen passenger cars and multi-purpose passenger vehicles, the most frequently imported types of motor vehicles. The agency estimates the total direct and indirect costs for a determination involving a substantially similar vehicle at \$1558.68 and for a non-similar vehicle at \$2151.61. In this light, a fee of \$1560 for substantially similar vehicle determinations, and one of \$2150 for those that are not substantially similar, appear to fulfill the statutory directive.

More specifically, the following cost breakdown has been estimated for substantially similar (and non-similar) vehicles. The process will result in personnel costs related to 2 (5) supervisory hours, 24 (35) staff hours, .25 (.25) hour computer time, .25 (2) hour(s) data entry time, .50 (2) hour(s) clerical time, and .25 (.50) hour recordkeeping time. In addition, .25 hour of computer time would be used for each. However, costs associated with preparing and publishing the two *Federal Register* notices, and evaluating comments to the first notice, should be identical. Each notice may require two columns of space (\$125 per column), for a cost of \$250 per notice, and total publication costs of \$500. Following agency practice with other petitions, the notices will be prepared by the Office of Chief Counsel. It is estimated that each notice will require 1 hour of preparation time, and .50 hour of clerical time, or a total of 3 hours for both notices. The estimated total direct charges for determinations of eligibility will be \$1342 (\$1817.50). In calculating the indirect

costs of processing and acting upon eligibility petitions, NHTSA estimates that the process, including the *Federal Register* preparation time, will take 30 (47.50) man hours, for a cost of \$201.30 (\$318.73), or a total cost of \$1543.30 (\$2136.23). These totals include .25 hour of computer time. To this must be added the pro rata cost of the yearly *Federal Register* notice. It is estimated that this will require 1 hour of Office of Chief Counsel time, .50 hour clerical time, and two columns in the *Federal Register*. The total direct costs to fulfill this statutory requirement would be \$297.50. The overhead costs, \$10.07. The total of \$307.57 divided among the estimated 20 registered importers adds \$15.38 to each petition cost, or a total of \$1558.68 (\$2151.61). Therefore, a petition fee of \$1560 (\$2150) is being adopted. At this point, costs appear similar for those determinations made upon the agency's own initiative, and the same fee will be used in recovery of costs.

C. Bond Processing Costs.

With respect to the costs attributable to processing the bond furnished the Secretary of the Treasury, the agency estimated and proposed \$125 per bond. However, after the proposal, NHTSA determined that the role of Customs in "processing" the bond under the 1988 Act would be limited to ensuring that the bond was completed and attached to the entry form, and that both would be forwarded to NHTSA. Customs then provided NHTSA with a detailed estimate of the costs involved in its processing of the bond. These tasks would be performed by a GS 9 Step 5 employee (hourly rate \$12.94). Eighteen minutes would be required to verify the content of the bond information, amount, and completeness, and to enter the information into Customs' data processing system. These tasks would cover all nonconforming vehicles imported. It is Customs practice to conduct verification inspections on approximately 15% of vehicles, verifying VINs to bonds, and this inspection would occupy 13 minutes. Finally, Customs estimates that 1% of the vehicles entered would not be brought into satisfactory conformity, requiring fulfillment of the bond condition of export. The associated tasks of supervising lading, reviewing documents, and verifying vehicle identification would require 20 minutes. Using the estimate of 2100 vehicles entered per year (the importation rate for 1989 to date), Customs' total bond processing costs are \$9,140.04, or \$4.352 per vehicle. NHTSA has adopted \$4.35 as the bond processing fee per vehicle.

Effective Date

Section 108(c)(3)(B) requires that the fee applicable in any fiscal year shall be established by NHTSA before the beginning of each such year. Therefore, pursuant to 5 U.S.C. 553(d)(3), it is found that good cause is shown for an effective date that is earlier than 30 days after publication of the final rule. Therefore, this final rule is effective September 30, 1989, so that

the fees it establishes will be applicable in Fiscal Year 1990, which begins October 1, 1989.

In consideration of the foregoing, a new Part 594, *Schedule of Fees Authorized by the Imported Vehicle Safety Compliance Act*, is added to Title 49, Chapter V, to read as follows:

Part 594 *Schedule of Fees Authorized by the National Traffic and Motor Vehicle Safety Act.*

Sec.

594.1 Scope.

594.2 Purpose.

594.3 Applicability.

594.4 Definitions.

594.5 Establishment and payment of fees.

594.6 Annual fee for administration of registration program.

594.7 Fee for filing petition for a determination whether a vehicle is eligible for importation.

594.8 Fee for importing a vehicle pursuant to a determination made on the Administrator's initiative.

594.9 Fee for reimbursement of bond processing costs.

Authority: Pub. L. 100-562, 15 U.S.C. 1401, 1407; delegation of authority at 49 CFR 1.50.

594.1 Scope.

This part establishes the fees authorized by the National Traffic and Motor Vehicle Safety Act.

594.2 Purpose.

The purposes of this part is to ensure that NHTSA is reimbursed for costs incurred in administering the importer registration program, in making determinations whether a nonconforming vehicle is eligible for importation into the United States, and in processing the bond furnished to the Secretary of the Treasury given to ensure that an imported vehicle not originally manufactured to conform to all applicable Federal motor vehicle safety standards is brought into compliance with the safety standards, or will be exported, or abandoned to the United States.

594.3 Applicability.

This part applies to any person who applies to NHTSA to be granted the status of a Registered Importer, to any person who has been granted such status, and to manufacturers who are not Registered Importers who petition the Administrator for a determination pursuant to Part 593 of this chapter.

594.4 Definitions

All terms used in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1391) are used as defined in the Act.

"Administrator" means the Administrator of the National Highway Traffic Safety Administration.

"NHTSA" means the National Highway Traffic Safety Administration.

“Registered Importer” means any person who has been granted the status of registered importer under Part 592 of this Chapter, and whose registration has not been revoked.

594.5 Establishment and payment of fees

(a) The fees established by this part continue in effect until adjusted by the Administrator. The Administrator reviews the amount or rate of fees established under this part and, if appropriate, adjusts them by rule at least every 2 years.

(b) The fees applicable in any fiscal year are established before the beginning of such year. Each fee is calculated in accordance with this part, and is published in the *Federal Register* not later than September 30 of each year.

(c) An applicant for status as Registered Importer shall submit an initial annual fee with the application. A fee for a determination that a vehicle is eligible for importation shall be submitted with the petition for a determination. No application or petition will be accepted for filing or processed before payment of the full amount specified. Except as provided in paragraph 594.6(d), a fee shall be paid irrespective of NHTSA’s disposition of the application or petition, or of a withdrawal of an application or petition.

(d) A Registered Importer annual fee, other than the initial annual fee, is payable not later than October 31 of each year.

(e) A fee attributable to a determination of eligibility made on the Administrator’s initiative shall be paid by a Registered Importer in accordance with paragraph 594.8(b).

(f) A fee for reimbursement for bond processing costs shall be filed with each certificate of conformity furnished the Administrator.

(g) Any other annual fee is payable not later than October 31 of each year. Any other fee is payable not later than 30 calendar days after the date of written notification by the Administrator.

(h) Fee payments shall be by check, draft, money order, or Electronic Funds Transfer System made payable to the Treasurer of the United States.

594.6 Annual fee for administration of the registration program.

(a) Each person filing an application to be granted the status of a Registered Importer pursuant to part 592 of this chapter during the period October 1, 1989 through September 30, 1990, shall pay an initial annual fee of \$255, as calculated below, based upon the direct and indirect costs attributable to:

- (1) processing and acting upon such application;
- (2) any inspection deemed required for a determination upon such application;
- (3) the estimated remaining activities of administering the registration program in the fiscal year in which such application is intended to become effective.

(b) That portion of the initial annual fee attributable to the processing of the application for applications

filed from October 1, 1989, through September 30, 1990, is \$86. The sum of \$86, representing this portion, shall not be refundable if the application is denied or withdrawn.

(c) If, in order to make a determination upon an application, NHTSA must make an inspection of the applicant’s facilities, NHTSA notifies the applicant in writing after the conclusion of any such inspection, that a supplement to the initial annual fee in a stated amount is due upon receipt of such notice to recover the direct and indirect costs associated with such inspection and notification, and that no determination will be made upon the application until such sum is received. Such sum is not refundable if the application is denied or withdrawn.

(d) That portion of the initial annual fee attributable to the remaining activities of administering the registration program from October 1, 1989, through September 30, 1990, is set forth in subsection (i) of this section. This portion shall be refundable if the application is denied, or withdrawn before final action upon it.

(e) Each Registered Importer who wishes to maintain the status of Registered Importer shall pay a regular annual fee based upon the direct and indirect costs of administering the registration program, including the suspension and reinstatement, and revocation of such registration.

(f) The elements of administering the registration program that are included in the regular annual fee are:

(1) Calculating, revising, and publishing the fees to apply in the next fiscal year, including such coordination as may be required with the U.S. Customs Service.

(2) Processing and reviewing the annual statement attesting to the fact that no material change has occurred in the Registered Importer’s status since filing its original application.

(3) Processing the annual fee.

(4) Processing and reviewing any amendments to an annual statement received in the course of a fiscal year.

(5) Verifying through inspection or otherwise that a Registered Importer is complying with the requirements of Sec. 592.6(b)(3) of this chapter for record-keeping.

(6) Verifying through inspection or otherwise that a Registered Importer is able technically and financially to carry out its responsibilities pursuant to 15 U.S.C. 1411 *et seq.*

(7) Invoking procedures for suspension of registration and its reinstatement, and for revocation of registration pursuant to Sec. 592.7 of this chapter.

(g) The direct costs included in establishing the annual fee for maintaining registered importer status are the estimated costs of professional and clerical staff time, computer and computer operator time, and

postage, per Registered Importer. The direct costs included in establishing the annual fee for a specific Registered Importer are costs of transportation and *per diem* attributable to inspections conducted with respect to that Registered Importer in administering the registration program, which have not been included in a previous annual fee.

(h) The indirect costs included in establishing the annual fee for maintaining Registered Importer status are a pro rata allocation of the average salary and benefits of persons employed in processing annual statements, or changes thereto, in recommending continuation of Registered Importer status, and a pro rata allocation of the costs attributable to maintaining the office space, and the computer or word processor. This cost is \$6.71 per man-hour for the period October 1, 1989, through September 30, 1990.

(i) Based upon the elements, and indirect costs of paragraphs (f), (g), and (h) of this section, the components of the initial annual fee attributable to administration of the registration program covering the period from October 1, 1989, through September 30, 1990, is \$166.92. When added to the component representing the costs of registration of \$85.99, as set forth in paragraph (b) of this section, the costs per applicant to be recovered through the annual fee is \$252.91. The annual registration fee for the period October 1, 1989, through September 30, 1990, is \$255.

Sec. 594.7 Fee for filing petition for a determination whether a vehicle is eligible for importation.

(a) Each manufacturer or registered importer who petitions NHTSA for a determination that—

(1) a nonconforming vehicle is substantially similar to a vehicle originally manufactured for importation into and sale in the United States and of the same model year as the model for which petition is made, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards, or

(2) a nonconforming vehicle has safety features that comply with or are capable of being modified to comply with all applicable Federal motor vehicle safety standards, shall pay a fee based upon the direct and indirect costs of processing and acting upon such petition.

(b) The direct costs attributable to processing a petition filed pursuant to paragraph (a) of this section include the average cost per professional staff-hour, computer and computer operator time, and postage. The direct costs also include those attributable to any inspection of a vehicle requested by a petitioner in substantiation of its petition.

(c) The indirect costs attributable to processing and acting upon a petition filed pursuant to paragraph (a) of this section include a pro rata allocation of the average salary and benefits of persons employed in

processing the petitions and recommending decisions on them, and a pro rata allocation of the costs attributable to maintaining the office space, and the computer or word processor.

(d) The direct costs attributable to acting upon a petition filed pursuant to paragraph (a) of this section, also include the cost of publishing a notice in the *Federal Register* seeking public comment, the cost of publishing a second notice with the agency's determination, and a pro rata share of the cost of publishing an annual list of nonconforming vehicles determined to be eligible for importation.

(e) The fee payable for a petition for a determination that a nonconforming vehicle is eligible for importation into the United States for petitions filed from October 1, 1989, through September 30, 1990, is \$1560 if a petition is filed under paragraph (a)(1) above, and \$2150 if filed under paragraph (a)(2) above, when the petitioner does not request inspection of a vehicle. When the petitioner requests an inspection of a vehicle, the sum of \$550 shall be added to such fee. No portion of this fee is refundable if the petition is withdrawn or denied.

Sec. 594.8 Fee for importing a vehicle pursuant to a determination made on the Administrator's initiative.

(a) A fee shall be paid to cover the direct and indirect costs incurred by NHTSA in determinations made under paragraph 593.8(a) of this chapter, pursuant to its own initiative, that a vehicle is eligible for importation into the United States. The basis of such fee is that set forth in paragraphs 594.7(b), (c), and (d). If this basis of the determination is that a vehicle meets the criteria of paragraph 594.7(a)(1), the fee is \$1560. If the basis of the determination is that a vehicle meets the criteria of paragraph 594.7(a)(2), the fee is \$2150. These fees are applicable to each determination made from October 1, 1989, through September 30, 1990.

(b) After NHTSA has made a determination on its own initiative, the notice published in the *Federal Register* announcing the determination includes a fee attributable to NHTSA's direct and indirect costs incurred pursuant to such determination, and an advisory that such fee shall be payable by the Registered Importer who furnishes a certificate of conformity pursuant to paragraph 592.6(a)(3)(vi) of this chapter, on behalf of the first person who files a declaration pursuant to paragraph 591.5(f) of this chapter that the vehicle is eligible for importation.

(c) After receipt of the first declaration covering a vehicle eligible for importation because of a determination made pursuant to the Administrator's initiative, NHTSA informs the appropriate Registered Importer that a fee in the stated amount shall accompany the certificate of conformity that the registered importer must furnish for the vehicle. No certificate shall be accepted for filing or processing

unless and until such fee has been paid. A certificate for which no remittance is received may be returned to the registered importer.

Sec. 594.9 *Fee for reimbursement of bond processing costs.*

(a) Each registered importer shall pay a fee based upon the direct and indirect costs of processing each bond furnished to the Secretary of the Treasury with respect to each vehicle for which it furnishes a certificate of conformity to the Administrator pursuant to paragraph 591.7(e) of this chapter.

(b) The direct and indirect costs attributable to processing a bond are provided to NHTSA by the U.S. Customs Service.

(c) Based upon information from the U.S. Customs Service, the bond processing fee for each vehicle for which a certificate of conformity is furnished from October 1, 1989, through September 30, 1990, is \$4.35.

Issued on September 26, 1989.

Jeffrey R. Miller
Acting Administrator

**54 F.R. 40100
September 29, 1989**

PART 594—SCHEDULE OF FEES AUTHORIZED BY THE NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY ACT

594.1 Scope.

This part establishes the fees authorized by the National Traffic and Motor Vehicle Safety Act.

594.2 Purpose.

The purposes of this part is to ensure that NHTSA is reimbursed for costs incurred in administering the importer registration program, in making determinations whether a nonconforming vehicle is eligible for importation into the United States, and in processing the bond furnished to the Secretary of the Treasury given to ensure that an imported vehicle not originally manufactured to conform to all applicable Federal motor vehicle safety standards is brought into compliance with the safety standards, or will be exported, or abandoned to the United States.

594.3 Applicability.

This part applies to any person who applies to NHTSA to be granted the status of a Registered Importer, to any person who has been granted such status, and to manufacturers who are not Registered Importers who petition the Administrator for a determination pursuant to Part 593 of this chapter.

594. Definitions.

All terms used in this part that are defined in section 102 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1391) are used as defined in the Act.

“Administrator” means the Administrator of the National Highway Traffic Safety Administration.

“NHTSA” means the National Highway Traffic Safety Administration.

“Registered Importer” means any person who has been granted the status of registered importer under Part 592 of this Chapter, and whose registration has not been revoked.

594.5 Establishment and payment of fees.

(a) The fees established by this part continue in effect until adjusted by the Administrator. The Administrator reviews the amount or rate of fees established under this part and, if appropriate, adjusts them by rule at least every 2 years.

(b) The fees applicable in any fiscal year are established before the beginning of such year. Each fee is calculated in accordance with this part, and is published in the *Federal Register* not later than September 30 of each year.

(c) An applicant for status as Registered Importer shall submit an initial annual fee with the application. A fee for a determination that a vehicle is eligible for importation shall be submitted with the petition for a determination. No application or petition will be accepted for filing or processed before payment of the full amount specified. Except as provided in paragraph 594.6(d), a fee shall be paid irrespective of NHTSA’s disposition of the application or petition, or of a withdrawal of an application or petition.

(d) A Registered Importer annual fee, other than the initial annual fee, is payable not later than October 31 of each year.

(e) A fee attributable to a determination of eligibility made on the Administrator’s initiative shall be paid by a Registered Importer in accordance with paragraph 594.8(b).

(f) A fee for reimbursement for bond processing costs shall be filed with each certificate of conformity furnished the Administrator.

(g) Any other annual fee is payable not later than October 31 of each year. Any other fee is payable not later than 30 calendar days after the date of written notification by the Administrator.

(h) Fee payments shall be by check, draft, money order, or Electronic Funds Transfer System made payable to the Treasurer of the United States.

594.6 Annual fee for administration of the registration program.

(a) Each person filing an application to be granted the status of a Registered Importer pursuant to part 592 of this chapter during the period October 1, 1989 through September 30, 1990, shall pay an initial annual fee of \$255, as calculated below, based upon the direct and indirect costs attributable to:

(1) processing and acting upon such application.

(2) any inspection deemed required for a determination upon such application;

(3) the estimated remaining activities of administering the registration program in the fiscal year in which such application is intended to become effective.

(b) That portion of the initial annual fee attributable to the processing of the application for applications filed from October 1, 1989, through September 30, 1990, is \$86. The sum of \$86, representing this portion, shall not be refundable if the application is denied or withdrawn.

(c) If, in order to make a determination upon an application, NHTSA must make an inspection of the applicant's facilities, NHTSA notifies the applicant in writing after the conclusion of any such inspection, that a supplement to the initial annual fee in a stated amount is due upon receipt of such notice to recover the direct and indirect costs associated with such inspection and notification, and that no determination will be made upon the application until such sum is received. Such sum is not refundable if the application is denied or withdrawn.

(d) That portion of the initial annual fee attributable to the remaining activities of administering the registration program from October 1, 1989, through September 30, 1990, is set forth in subsection (i) of this section. This portion shall be refundable if the application is denied, or withdrawn before final action upon it.

(e) Each Registered Importer who wishes to maintain the status of Registered Importer shall pay a regular annual fee based upon the direct and indirect costs of administering the registration program, including the suspension and reinstatement, and revocation of such registration.

(f) The elements of administering the registration program that are included in the regular annual fee are:

(1) Calculating, revising, and publishing the fees to apply in the next fiscal year, including such coordination as may be required with the U.S. Customs Service.

(2) Processing and reviewing the annual statement attesting to the fact that no material change has occurred in the Registered Importer's status since filing its original application.

(3) Processing the annual fee.

(4) Processing and reviewing any amendments to an annual statement received in the course of a fiscal year.

(5) Verifying through inspection or otherwise that a Registered Importer is complying with the requirements of Sec. 592.6(b)(3) of this chapter for recordkeeping.

(6) Verifying through inspection or otherwise that a Registered Importer is able technically and financially to carry out its responsibilities pursuant to 15 U.S.C. 1411 et seq.

(7) Invoking procedures for suspension of registration and its reinstatement, and for revocation of registration pursuant to Sec. 592.7 of this chapter.

(g) The direct costs included in establishing the annual fee for maintaining registered importer status are the estimated costs of professional and clerical staff time, computer and computer operator time, and postage, per Registered Importer. The direct costs included in establishing the annual fee for a specific Registered Importer are costs of transportation and *per diem* attributable to inspections conducted with respect to that Registered Importer in administering the registration program, which have not been included in a previous annual fee.

(h) The indirect costs included in establishing the annual fee for maintaining Registered Importer status are a pro rata allocation of the average salary and benefits of persons employed in processing annual statements, or changes thereto, in recommending continuation of Registered Importer status, and a pro rata allocation of the costs attributable to maintaining the office space, and the computer or word processor. This cost is \$6.71 per man-hour for the period October 1, 1989, through September 30, 1990.

(i) Based upon the elements, and indirect costs of paragraphs (f), (g), and (h) of this section, the component of the initial annual fee attributable to administration of the registration program, covering the period from October 1, 1989, through September 30, 1990, is \$166.92. When added to the component representing the costs of registration of \$85.99, as set forth in paragraph (b) of this section, the costs per applicant to be recovered through the annual fee

is \$252.91. The annual registration fee for the period October 1, 1989, through September 30, 1990, is \$255.

Sec. 594.7 Fee for filing petition for a determination whether a vehicle is eligible for importation.

(a) Each manufacturer or registered importer who petitions NHTSA for a determination that—

(1) a nonconforming vehicle is substantially similar to a vehicle originally manufactured for importation into and sale in the United States and of the same model year as the model for which petition is made and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards, or

(2) a nonconforming vehicle which has safety features that comply with or are capable of being modified to comply with all applicable Federal motor vehicle safety standards, shall pay a fee based upon the direct and indirect costs of processing and acting upon such petition.

(b) The direct costs attributable to processing a petition filed pursuant to paragraph (a) of this section include the average cost per professional staff-hour, computer and computer operator time, and postage. The direct costs also include those attributable to any inspection of a vehicle requested by a petitioner in substantiation of its petition.

(c) The indirect costs attributable to processing and acting upon a petition filed pursuant to paragraph (a) of this section include a pro rata allocation of the average salary and benefits of persons employed in processing the petitions and recommending decisions on them, and a pro rata allocation of the costs attributable to maintaining the office space, and the computer or word processor.

(d) The direct costs attributable to acting upon a petition filed pursuant to paragraph (a) of this section, also include the cost of publishing a notice in the *Federal Register* seeking public comment, the cost of publishing a second notice with the agency's determination, and a pro rata share of the cost of publishing an annual list of nonconforming vehicles determined to be eligible for importation.

(e) The fee payable for a petition for a determination that a nonconforming vehicle is eligible for importation into the United States for petitions filed from October 1, 1989, through September 30, 1990, is \$1560 if a petition is filed under paragraph (a)(1) above, and \$2150 if filed under paragraph (a)(2)

above, when the petitioner does not request inspection of a vehicle. When the petitioner requests an inspection of a vehicle, the sum of \$550 shall be added to such fee. No portion of this fee is refundable if the petition is withdrawn or denied.

Sec. 594.8 Fee for importing a vehicle pursuant to a determination made on the Administrator's initiative.

(a) A fee shall be paid to cover the direct and indirect costs incurred by NHTSA in determinations made under paragraph 593.8(a) of this chapter, pursuant to its own initiative, that a vehicle is eligible for importation into the United States. The basis of such fee is that set forth in paragraphs 594.7(b), (c), and (d). If the basis of the determination is that a vehicle meets the criteria of paragraph 594.7(a)(1), the fee is \$1560. If the basis of the determination is that a vehicle meets the criteria of paragraph 594.7(a)(2), the fee is \$2150. These fees are applicable to each determination made from October 1, 1989, through September 30, 1990.

(b) After NHTSA has made a determination on its own initiative, the notice published in the *Federal Register* announcing the determination includes a fee attributable to NHTSA's direct and indirect costs incurred pursuant to such determination, and an advisory that such fee shall be payable by the Registered Importer who furnishes a certificate of conformity pursuant to paragraph 592.6(a)(3)(vi) of this chapter, on behalf of the first person who files a declaration pursuant to paragraph 591.5(f) of this chapter that the vehicle is eligible for importation.

(c) After receipt of the first declaration covering a vehicle eligible for importation because of a determination made pursuant to the Administrator's initiative, NHTSA informs the appropriate Registered Importer that a fee in the stated amount shall accompany the certificate of conformity that the registered importer must furnish for the vehicle. No certificate shall be accepted for filing or processing unless and until such fee has been paid. A certificate for which no remittance is received may be returned to the registered importer.

Sec. 594.9 Fee for reimbursement of bond processing costs.

(a) Each registered importer shall pay a fee based upon the direct and indirect costs of processing each bond furnished to the Secretary of the Treasury with respect to each vehicle for which it furnishes a

certificate of conformity to the Administrator pursuant to paragraph 591.7(e) of this chapter.

(b) The direct and indirect costs attributable to processing a bond are provided to NHTSA by the U.S. Customs Service.

(c) Based upon information from the U.S. Customs Service, the bond processing fee for each vehicle for which a certificate of conformity is fur-

nished from October 1, 1989, through September 30, 1990, is \$4.35.

Issued on Sept. 26, 1989.

54 F.R. 40100
September 29, 1989

PREAMBLE TO DEPARTMENT OF THE TREASURY REGULATION RELATING TO IMPORTATION OF MOTOR VEHICLES AND ITEMS OF MOTOR VEHICLE EQUIPMENT

On April 10, 1968, Public Law 90-283 was enacted to amend the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1391-1409) by adding a new section 123. This section provides a procedure whereby the Secretary of Transportation is authorized, upon petition by a manufacturer of 500 or less vehicles annually, to temporarily exempt such vehicles from certain Federal motor vehicle safety standards. The procedures for temporary exemption of such vehicles adopted by the Department, as published in the *Federal Register* on September 26, 1968 (33 F.R. 14457), require each exempted vehicle to bear a label or tag permanently affixed containing certain information including a statement listing the safety standards for which an exemption has been obtained. Since vehicles so exempted will no longer bear the "valid certification as required by section 114 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1403)" which is required by 19 CFR 12.80(b)(1) if a motor vehicle offered for importation is not to be refused entry, it is deemed desirable to amend 19 CFR 12.80(b) to allow entry of exempted vehicles bearing the exemption labels or tags required under the regulations of the Department of Transportation (23 CFR 217.13).

In addition, the Automobile Manufacturer's Association, Inc., on behalf of itself and its member companies, has made a showing of the necessity of importing and using for purposes of test or experiment for a limited time on the public roads, of a limited number of nonconforming motor vehicles manufactured outside the United States. The Association has requested an amendment of 19 CFR 12.80(b)(2)(vii) which currently, among other things, allows the importation of such vehicles for such purposes only upon a declaration by the importer that these vehicles will not be licensed for use on the public roads.

In consideration of the foregoing, § 12.80(b) is amended as follows:

Subparagraph (b)(1) is amended by changing the period following the words "so labelled or tagged", to a comma and (b)(2)(vii) is amended to read as follows:

§ 12.80 Federal Motor vehicle safety standards.

* * * * *

(b) * * *

(1) * * * or (iii) (for vehicles only which have been exempted by the Secretary of Transportation from meeting certain safety standards) it bears a label or tag permanently affixed to such vehicle which meets the requirements set forth in the regulations of the Department of Transportation, 23 CFR 217.13.

(2) * * *

(vii) The importer or consignee is importing such vehicle or equipment item solely for the purposes of show, test, experiment, competition, repairs or alterations and that such vehicle or equipment item will not be sold or licensed for use on the public roads: Provided, That vehicles imported solely for purposes of test or experiment may be licensed for use on the public roads for a period not to exceed one year, where such use is an integral part of tests or experiments for which such vehicle is being imported, upon condition that the importer attach to the declaration description of the tests or experiments for which the vehicle is being imported, the period of time during which it is estimated that it will be necessary to test the vehicle on the public roads, and the disposition to be made of the vehicle after completion of the tests or experiments.

* * * * *

(Sec. 108, 80 Stat. 722, 15 U.S.C. 1397)

Since the first amendment is necessitated to conform to regulations of the Department of

Effective: December 14, 1968

Transportation presently in effect and the second will affect a very limited number of persons with a legitimate interest in road testing non-conforming vehicles, notice and public procedure thereon is not considered necessary and good cause is found for dispensing with the delayed effective date provision of 5 U.S.C. 553(d). Therefore, the amendments shall be effective upon publication in the *Federal Register*.
[SEAL]

Lester D. Johnson
Commissioner of Customs

Approved: November 29, 1968.

Joseph M. Bowman,
Assistant Secretary
of the Treasury.

Approved: December 9, 1968.

Lowell K. Bridwell,
Federal Highway Administrator.

33 F.R. 18577

December 14, 1968

**PREAMBLE TO AMENDMENT TO DEPARTMENT OF THE TREASURY REGULATION RELATING
TO IMPORTATION OF MOTOR VEHICLES AND ITEMS OF MOTOR VEHICLE EQUIPMENT**

(T.D. 71-122)

A notice was published in the *Federal Register* on February 18, 1971 (36 F.R. 3121), that it was proposed to amend § 12.80 of the Customs Regulations (19 CFR 12.80) to make the following substantive changes:

1. To provide that motor vehicles and motor vehicle equipment brought into conformity under bond, shall not be sold or offered for sale until the bond is released;

2. To make clear that the term motor vehicle as used in § 12.80 refers to a motor vehicle as defined in the National Traffic and Motor Vehicle Safety Act of 1966;

3. To require a declaration of conformance accompanied by a statement of the vehicle's original manufacturer as evidence of original compliance;

4. To require that declarations filed under paragraph (c) of § 12.80 be signed by the importer or consignee; and

5. To add a bond requirement for the production of a declaration of original compliance and a declaration of conformity after manufacture.

Interested persons were given an opportunity to submit relevant data, views, or arguments. No comments were received. The amendments as proposed, with minor editorial changes, are hereby adopted as set forth below to become effective 30 days after the date of publication in the *Federal Register*.

Robert V. McIntyre,
Acting Commissioner of Customs.

APPROVED: April 22, 1971.

Eugene T. Rossides,
Assistant Secretary of the Treasury.

APPROVED: May 3, 1971.

Douglas W. Toms,
Acting Administrator, National
Highway Traffic Safety Administra-
tion.

**36 F.R. 8667
May 11, 1971**

DEPARTMENT OF THE TREASURY REGULATION RELATING TO IMPORTATION OF MOTOR VEHICLES AND ITEMS OF MOTOR VEHICLE EQUIPMENT

Notice of a proposal to add § 12.80 to Part 12 of the Customs Regulations to prescribe regulations providing for the admission or refusal of motor vehicles or items of motor vehicle equipment which are offered for importation into the United States and which are subject to Federal motor vehicle safety standards promulgated by the Department of Transportation in 49 CFR Part 571, pursuant to the provisions of the National Traffic and Motor Vehicle Safety Act of 1966, was published in the *Federal Register* for November 30, 1967 (32 F.R. 16432). Interested persons were given an opportunity to submit relevant data, views, or arguments in writing regarding the proposed regulations. All comments received have been carefully considered.

In response to those comments, in addition to several minor changes, the first paragraph of § 12.80(b) has been amended to provide for the entry, without written declaration, of motor vehicles and items of motor vehicle equipment intended for export and so labeled. A new provision is also added (§ 12.80(b) (2) (iv)) to provide for the entry, upon written declaration, of new vehicles intended for resale which do not fully conform to the safety standards because of the absence of readily attachable equipment items:

Provided, That the importer or consignee undertakes to attach the missing items before such vehicles are offered to the general public for sale. Finally, the importation of nonconforming vehicles for competition purposes will be permitted under § 12.80(b) (2) (vii) if the vehicle will not be licensed for use on the public roads.

Part 12 is accordingly amended to add a new centerhead and section as follows:

Motor Vehicles and Motor Vehicle Equipment
Manufactured on or after January 1, 1968

§ 12.80 Federal motor vehicle safety standards.

(1) *Standards prescribed by the Department of Transportation.* Motor vehicles and motor vehicle equipment manufactured on or after January 1, 1968, offered for sale, or introduction or delivery for introduction in interstate commerce, or importation into the United States are subject to Federal Motor Vehicle Safety Standards (hereafter referred to in this section as "safety standards") prescribed by the Secretary of Transportation under sections 103 and 119 of the National Traffic and Motor Vehicle Safety Act of 1966. (15 U.S.C. 1392, 1407) as set forth in regulations in 49 CFR Part 571. A motor vehicle hereafter referred to in this section as "vehicle" or item of motor vehicle equipment (hereafter referred to in this section as "equipment item"), manufactured on or after January 1, 1968, is not permitted entry into the United States unless (with certain exceptions set forth in paragraph (b) of this section) it is in conformity with applicable safety standards in effect at the time the vehicle or equipment item was manufactured.

(b) *Requirements for entry and release.*

(1) Any vehicle or equipment item offered for importation into the customs territory of the United States shall not be refused entry under this section if (i) it bears a certification label affixed by its original manufacturer in accordance with section 114 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1403) and regulations issued thereunder by the Secretary of Transportation (49 CFR Part 567) (in the case of a vehicle, in the form of a label or tag permanently affixed to such vehicle or in the case of an equipment item, in the form of a label or tag on such item or on the outside of a container in which such item is delivered), or (ii) it is intended solely for export, such vehicle or equipment

item and the outside of its container, if any, to be so labeled and tagged, or (iii) (for vehicles only which have been exempted by the Secretary of Transportation from meeting certain safety standards) it bears a label or tag permanently affixed to such vehicle which meets the requirements set forth in the regulations of the Department of Transportation, 49 CFR 555.13.

(2) Any such vehicle or equipment item not bearing such certification or export label shall be refused entry unless there is filed with the entry, in duplicate, a declaration signed by the importer or consignee which states that:

(i) Such vehicle or equipment item was manufactured on a date when there were no applicable safety standards in force, a verbal declaration being acceptable at the option of the district director of customs for vehicles entering at the Canadian and Mexican borders; or

(ii) Such vehicle or equipment item was not manufactured in conformity with applicable safety standards but has since been brought into conformity, such declaration to be accompanied by the statement of the manufacturer, contractor, or other person who has brought such vehicle or equipment item into conformity which describes the nature and extent of the work performed; or

(iii) Such vehicle or equipment item does not conform with applicable safety standards, but that the importer or consignee will bring such vehicle or equipment item into conformity with such safety standards, and that such vehicle or equipment item will not be sold or offered for sale until the bond (required by paragraph (c) of this section) shall have been released; or

(iv) Such vehicle is a new vehicle being imported for purposes of resale which does not presently conform to all applicable safety standards because readily attachable equipment items are not attached, but that there is affixed to its windshield a label stating the safety standard with which and the manner in which such vehicle does not conform and

that the vehicle will be brought into conformity by attachment of such equipment items before it will be offered for sale to the first purchaser for purposes other than resale; or

(v) The importer or consignee is a non-resident of the United States, importing such vehicle or equipment item primarily for personal use or for the purpose of making repairs or alterations to the vehicle or equipment item, for a period not exceeding 1 year from the date of entry, and that he will not resell it in the United States during that time: PROVIDED, That persons regularly entering the United States by a motor vehicle at the Canadian and Mexican borders may apply to the district director of customs for an appropriate means of identification to be affixed to such vehicle which will serve in place of the declaration required by this paragraph; or

(vi) The importer or consignee is a member of the armed forces of a foreign country on assignment in the United States, or is a member of the Secretariat of a public international organization so designated pursuant to 59 Stat. 669 on assignment in the United States, or is a member of the personnel of a foreign government on assignment in the United States who comes within the class of persons for whom free entry of motor vehicles has been authorized by the Department of State and that he is importing such vehicle or equipment item for purposes other than resale; or

(vii) The importer or consignee is importing such vehicle or equipment item solely for the purpose of show, test, experiment, competition, repairs or alterations and that such vehicle or equipment item will not be sold or licensed for use on the public roads: PROVIDED: That vehicles imported solely for purposes of test or experiment may be licensed for use on the public roads for a period not to exceed one year, where such use is an integral part of tests or experiments for which such vehicle is being imported, upon condition that the importer attach to the declaration a description of the tests or experiments for which the ve-

hicle is being imported, the period of time during which it is estimated that it will be necessary to test the vehicle on the public roads, and the disposition to be made of the vehicle after completion of the tests or experiments.

(viii) Such vehicle which is not manufactured primarily for use on the public roads is not a "motor vehicle" as defined in section 102 of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1391); or

(ix) Such vehicle was manufactured in conformity with applicable safety standards, such declaration to be accompanied by a statement of the vehicle's original manufacturer as evidence of original compliance.

(3) Any declaration given under this section (except an oral declaration accepted at the option of the district director of customs under subparagraph (2)(i) of this paragraph) shall state the name and United States address of the importer or consignee, the date and the entry number, a description of any equipment item, the make and model, engine serial, and body serial numbers of any vehicle or other identification numbers, and the city and State in which it is to be registered and principally located if known, and shall be signed by the importer or consignee. The district director of customs shall immediately forward the original of such declaration to the National Highway Traffic Safety Administration of the Department of Transportation.

(c) *Release under bond.* If a declaration filed in accordance with paragraph (b) of this section states that the entry is being made under circumstances described in paragraph (b) (2) (iii), or under circumstances described in paragraph (b) (2) (ii) or (ix) of this section where the importer at time of entry does not submit a statement in support of his declaration of conformity the entry shall be accepted only if the importer gives a bond on Customs Forms 7551, 7553, or 7595 for the production of either a statement by the importer or consignee that the vehicle or equipment item described in the declaration filed by the importer has been brought into conformity with applicable safety stand-

ards and identifying the manufacturer, contractor, or other person who has brought such vehicle or equipment item into conformity with such standards and describing the nature and extent of the work performed or a statement of the vehicle manufacturer certifying original conformity. The bond shall be in the amount required under § 25.4(a) of this chapter. Within 90 days after such entry, or such additional period as the district director of customs may allow for good cause shown, the importer or consignee shall deliver to both the district director of customs, and the National Highway Traffic Safety Administration a copy of the statement described in this paragraph. If such statement is not delivered to the district director of customs for the port of entry of such vehicle or equipment item within 90 days of the date of entry or such additional period as may have been allowed by the district director of customs for good cause shown, the importer or consignee shall deliver or cause to be delivered to the district director of customs those vehicles or equipment items, which were released in accordance with this paragraph. In the event that any such vehicle or equipment item is not redelivered within 5 days following the date specified in the preceding sentence, liquidated damages shall be assessed in the full amount of a bond given on Form 7551. When the transaction has been charged against a bond given on Form 7553, or 7595, liquidated damages shall be assessed in the amount that would have been demanded under the preceding sentence if the merchandise had been released under a bond given on Form 7551.

(d) *Merchandise refused entry.* If a vehicle or equipment item is denied entry under the provisions of paragraph (b) of this section, the district director of customs shall refuse to release the merchandise for entry into the United States and shall issue a notice of such refusal to the importer or consignee.

(e) *Disposition of merchandise refused entry into the United States; redelivered merchandise.* Vehicles or equipment items which are denied entry under paragraph (b) of this section or which are redelivered in accordance with paragraph (c) of this section and which are not ex-

ported under customs supervision within 90 days from the date of notice of refusal of admission or date of redelivery shall be disposed of under customs laws and regulations; *Provided, however,* That any such disposition shall not result in an introduction into the United States of a vehicle or equipment item in violation of the National Traffic and Motor Vehicle Safety Act of 1966.

(Sec. 623, 46 Stat. 759, as amended, sec. 108, 80 Stat. 722; 19 U.S.C. 1623; 15 U.S.C. 1397)

Since motor vehicles and items of motor vehicle equipment subject to the standards prescribed in 49 CFR Part 571, may shortly be in transit to United States ports of entry, it is important that these regulations be put into effect at the earliest possible date. It is therefore found that the ad-

vance publication requirement under 5 U.S.C. 553 is impracticable and good cause is found for adopting these regulations effective upon publication in the *Federal Register*.

(SEAL)

Lester D. Johnson
Commissioner of Customs

APPROVED: January 2, 1968.

Matthew J. Marks,
Acting Assistant Secretary
of the Treasury

APPROVED: January 5, 1968.

Alan S. Boyd
Secretary of Transportation

33 F.R. 360
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